

THE JOURNAL  
OF  
THE DEPARTMENT OF AGRICULTURE,  
VICTORIA, AUSTRALIA.

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**DEPARTMENT OF AGRICULTURE, VICTORIA****RED POLL DAIRY HERD**  
**YOUNG BULLS FOR SALE**  
**TO VICTORIAN DAIRYMEN**

DAM.	Date of Birth.	RECORD OF DAM.				PRICE.
		Milk lbs.	Average Test.	Fat lbs.	Butter lbs.	
Sired by "NICOTINE" by ACTON DEWSTONE (imp.)						
Pennsylvania	... 2.7.14	6340	4.0-5.2	271.9	310	13 13 0
Havana	... 17.8.14	6365	4.15	264.3	301 $\frac{1}{4}$	13 13 0
Kentucky	... 21.8.14	7905	3.96	313.3	357 $\frac{1}{4}$	15 15 0
Sired by "BELMONT" by ACTON AJAX (imp.)						
Mongolia	... 20.9.14	Heifer.	No Record.			5 5 0
Zealana	... 15.10.14	"	"	"		5 5 0
Sired by "GANYMED" E						
Soudana	... 20.11.14	Heifer.	No Record.			5 5 0
Ontario	... 18.12.14	"	"	"		5 5 0

The prices are based approximately on the actual milk and butter fat record of the dam at the rate of 1s. per lb. of butter fat yielded.

See *Journal of Agriculture*, September, 1914.

Inspection by arrangement with Mr. E. STEER, Herdsman,  
Central Research Farm, Werribee.

Application for purchase to DIRECTOR OF AGRICULTURE, MELBOURNE.



THE JOURNAL  
OF  
The Department of Agriculture  
OF  
VICTORIA.

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10th May, 1915.

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### THE PIG INDUSTRY.

(Continued from page 341, Vol. XI.)

*By R. T. Archer, Senior Dairy Inspector.*

#### V.—THE HOUSING OF PIGS.

The principal features requiring attention in constructing pigsties are: 1st, they must be provided with an impervious floor. Where suitable material is available, concrete will be thoroughly satisfactory if properly put down. Brick of good quality, grouted with cement, also makes a first-class floor. The bricks may be laid flat. A fall of about 1 inch in 6 feet will provide for free drainage, so that one can have a floor easily kept sanitary and dry. Concrete or brick floors are not suitable for pigs to lie on; they should be provided with a movable hurdle of lattice-work. This insures a dry bed, and keeps them from the cold floor. They should never be allowed to lie on damp, fermenting bedding, as this will often cause pneumonia. 2nd. The walls and partitions must be constructed so that there are no crevices or open joints through which draughts can strike the pigs lying near. Draughty sties are a frequent cause of pneumonia. 3rd. Warmth, particularly in the cold weather of winter, enables pigs to thrive better, making more economical use of their food. At the same time, plenty of ventilation must be provided. 4th. Light is of the greatest assistance in keeping the place sweet and healthy; and 5th, provision should be made for convenient handling.

It is often found satisfactory to work pigs in small paddocks or runs, providing movable houses for shelter and shade, especially to breeding pigs. By moving them about systematically, they can be made to manure a paddock or orchard thoroughly. In this way pigs have been

of immense value in some of the citrus orchards in Mildura and elsewhere. Fig. 1 illustrates a movable sty in the lemon orchard of Mr. H. Jacob, of Mildura. It consists of four hurdles constructed of 6-in. x 1-in. hardwood battens, 3 ft. 6 in. long, nailed on to 4-in. x 2-in. rails, 10 feet long. On one hurdle, and for 3 ft. 6 in. at the end of two others, the



Fig. 1.—Mr. H. Jacob's Movable Pen.

6-ft. x 1-in. battens are close together, which makes good shelter. The remainder are placed 3 inches apart. A couple of sheets of iron laid across the top will provide shelter. Fig. 2 is a movable run made of hurdles in the same way, with a shelter in the corner. In this case they can be fastened together at the ends with wire, and easily removed. Fig. 3 is a movable house, lightly built of wood and iron, and can be



Fig. 2.—Mr. H. Jacob's Movable Run

lifted about or, if put on runners, with boarded floor, can be moved by a horse. This provides for keeping the houses on fresh, clean ground. Where possible, the piggeries should be placed on sloping ground. This will facilitate the disposal of the drainage. It may be that sufficient fall will be available to provide that the drainage will flow from the

piggeries into the manure tank and then gravitate from the tank to the manure cart. When this fall is not possible, provision must be made

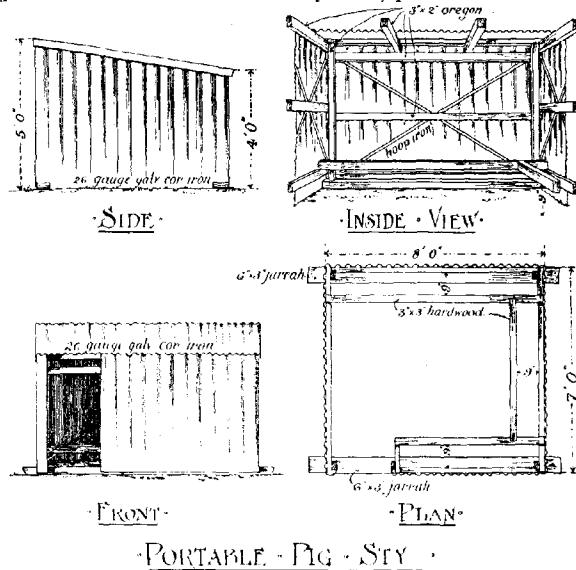
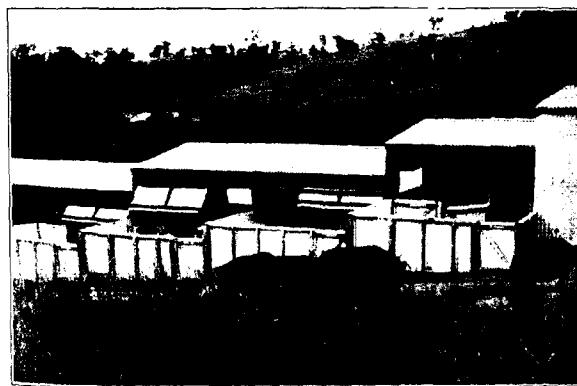


Fig. 3.

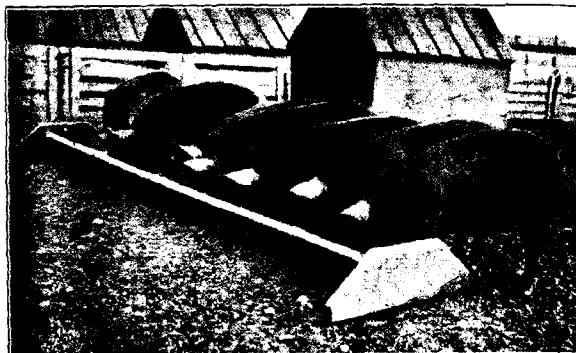


Pig Cots.

for pumping the liquid manure into the cart. The piggeries must be so situated that the drainage does not run near the cowshed or the dairy.

## SPECIFICATION FOR PIGGERY (PAGE 262).

*Ground Plan.*—The ground to be covered by building to be prepared for cement floor, as follows:—The fall of the floor, from end to end of building, to be 3 inches in 18 feet, the floors of sties to have a fall of 10 inches from partition of passage to outside drain, the passage to be



Tamworth Sows (10 months of age) in Winter Quarters, Central Experimental Farm, Ottawa. Note (1) Uniformity of sows; (2) Good condition and comfort in these quarters.



Swine Cabins, Central Experimental Farm, Ottawa. Winter Quarters for Brood Sows. Note (1) Structure of cabins; (2) exercising yards made of hurdle fences.

level across its width. The ground must be well levelled, and all holes filled in, and then the whole should be rammed. The floor will then be covered with a layer of gravel 1 inch thick, then a layer of concrete 1½ inches thick will be put down; proportions, one of cement to four of gravel (if screenings of metal can be procured, one in seven will do).

*Yards.*—The yards on each side of building to be treated in the same manner, and to be finished off to form a shallow drain 12 inches outside of fence of yard; drain to be carried right round buildings, as shown in plan; width of yards, 6 feet.

*Cement.*—After the concrete is laid it will have a top dressing of cement, 1 inch in thickness; proportion, one of cement to two of sand. The floor should be covered with wet bags, and kept moist for at least a week. A bed of cement will be formed under all inside partitions, to prevent moisture accumulating in the passage or bedding. All angles of floors should be rounded out so that manure will not accumulate.

*Cess Tank.*—An underground tank, 6 feet in diameter by 7 feet in depth, will be sunk at one end of building, clear of corner (or where required), to receive the drainage. Inside of tank will have two layers of concrete of same strength as floor, each layer 1 inch thick; then will have a layer of one of cement to one of sand put on 4 inch thick. The top of tank will be timbered and fitted with pump for removing contents.

*Foundation Blocks.*—The blocks will be fixed in position before the cementing is done; they will be placed so that they will be flush with the cement floor when finished.

#### BUILDING.

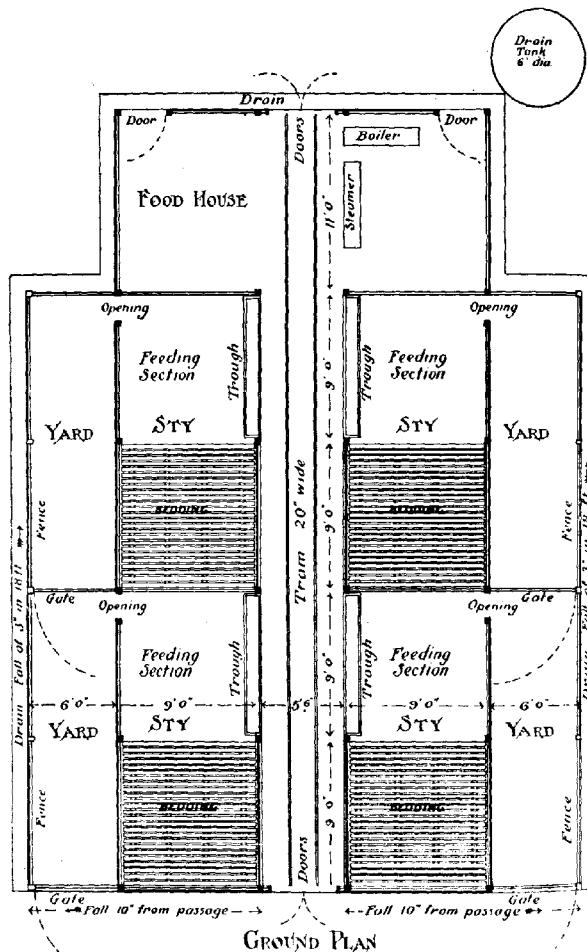
A building sufficient to contain four sties and feed-room will require to be 49 feet long by 23 ft. 6 in. in width. The frame of building will be fixed to framed standards bolted together and placed 9 feet apart.

*Standards.*—There will be four upright posts in each standard of 4-in. x 4-in. hardwood, mortised into foundation blocks. The outside posts will be 6 ft. 6 in. high from block, the inside posts to be 9 feet in height. The posts will be placed 9 feet apart, and 5 ft. 6 in. between the two inside posts across the centre passage. The rafters will be of 4-in. x 3-in. hardwood, halved across tops of posts and fastened with bolts, a collar tie of same material to be fixed in same manner to connect tops of inside posts. Two rails of 3-in. x 2-in. hardwood to be mortised in posts to carry boards of inside partition; single braces of 4-in. x 3-in. hardwood to be fixed inside posts to rafter.

*Partitions.*—The partitions between sties to be covered by 6-in. x  $\frac{1}{2}$ -in. hardwood boards fixed vertically and made draught-proof. Height of partitions, where they touch outside wall, to be 4 feet, and to decrease to 3 ft. 9 in. at partition of passage.

*Purlins.*—When the principals are fixed they will be placed 9 feet apart, and connected by purlins of 4-in. x 2-in. hardwood, fixed to rafters with purlin blocks, and each joint will be made on alternate principles, so as to strengthen frame. There will be three rows of purlins on each side of roof, and one row on inside of long posts to carry the curved iron that covers the centre of roof.

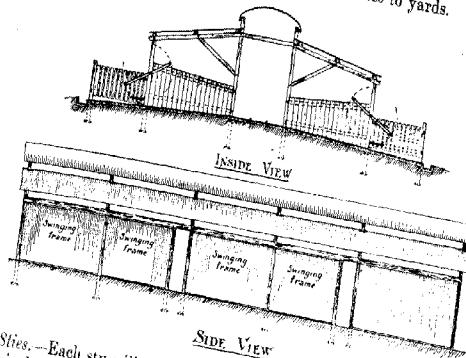
*Walls.*—The outside walls will be covered by swinging frames of 3-in. x 2-in. hardwood, covered with galvanized corrugated iron. They will be horizontally on a pivot fixed a little higher than the centre, so as to cause the flap to close whenever it is pushed open or the catch released. A catch made of a piece of batten will be fixed in such a manner as to keep the flap open when required. An opening 4 inches wide above all flaps.



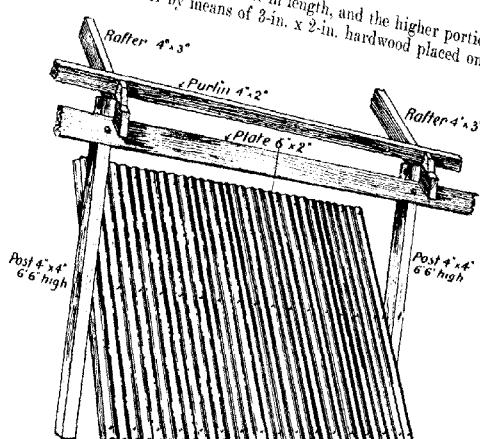
## PLAN OF PIGGERY

### Fattening Pens

*Openings.*—An opening 1 ft. 6 in. wide will be left at end of each sty in the feeding compartment, to allow the pigs access to yards.



*Sties.*—Each sty will be 18 feet in length, and the higher portion will be raised above floor by means of 3-in. x 2-in. hardwood placed on edge,



MOVABLE SIDE

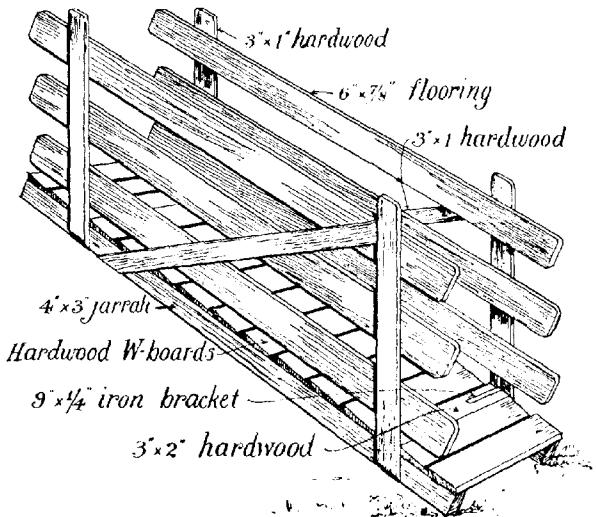
Inside and Side View; also Movable Side of Piggery.

and battens will be nailed to them to form floor for bedding. The battens forming this floor will be fixed a little apart, about  $\frac{1}{4}$  inch, to

allow any water to drain away from bedding. Each sty will be fitted with feeding trough as directed.

*Passage.*—A passage 5 ft. 6 in. wide will be left down centre of building between sties, and a wooden tramway will be laid to run a wheeled trough along to carry the feed from place to place; the tram rails will be laid 20 inches centre to centre.

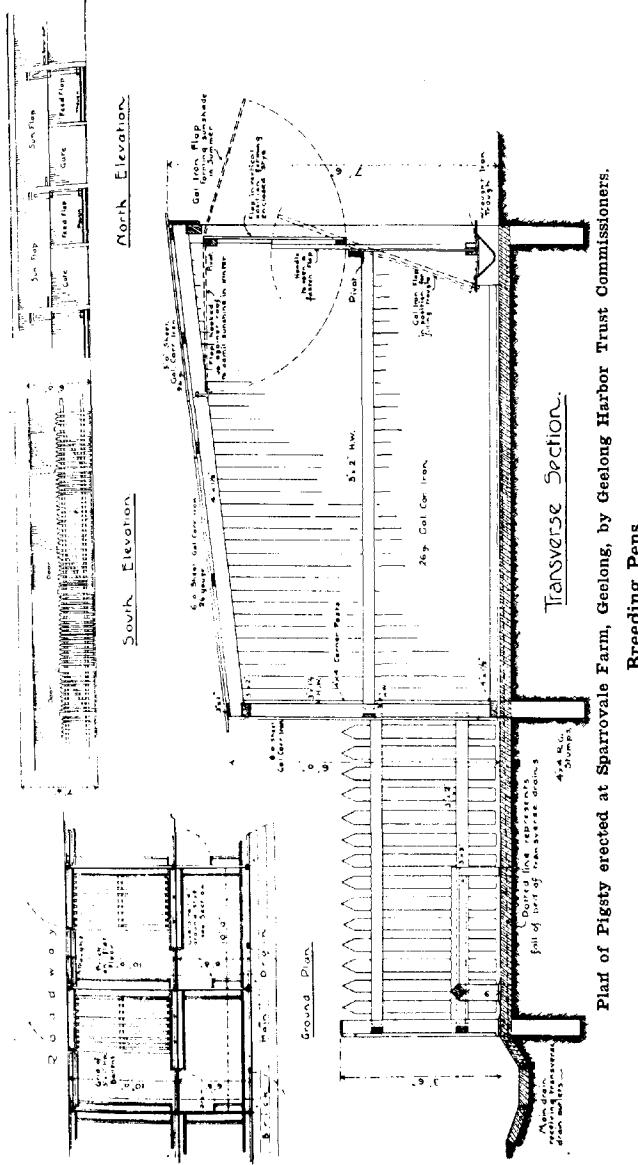
*Feed House.*—The lower end of building will be used as a steaming house and storeroom for feed. It will be fitted with a boiler of suitable size, and a steaming trough for cooking feed. There will be a door 4 ft. 6 in. wide at each end of building in the centre, and there will be a door on each side of feed house in end wall, about 3 feet wide.



### “PORTABLE • PIG • RAMP •”

*Roof.*—The two side roofs will be covered with galvanized corrugated iron, 10 feet sheets, fastened with patent spring-head nails to purlins. The centre portion of roof over passage will be covered with curved iron, giving a curve of a foot in a 7-feet sheet. This will provide for ventilation. The whole roof should be covered on outside with Arabic paint, as this tends to keep the building cool in summer. This object may also be attained by making the roof double or lining it underneath with pine or ruberoid.

The chief object aimed at in planning this building is to provide a sty of an up-to-date sanitary character. This is secured by the impervious floor, drains, pit, and the establishment of a proper system of ventilation, and the admission of sunlight to all parts of the interior of



Plant of Pigsty erected at Snarrovalle Farm, Geelong, by Geelong Harbor Trust Commissioners.

the building. Ventilation is obtained in this building by leaving openings 4 inches wide at top of walls, and also in the lantern roof, which, of course, has two openings running the full length of building 1 foot wide. If the building is built with its ends in a northerly and southerly direction, the sunlight can be admitted into every part by opening the flaps of the side walls.

In places where bush timber is plentiful, all the framing for this building may be worked out of saplings.

#### THE GEELONG HARBOR TRUST COMMISSIONERS.

##### *Specification of Pigsty.*

Excavate the ground to a depth of 5 inches over the whole of the site, and 2 inches extra for main drains; leave the surface of the ground even to start brick paving. Holes for studs and posts to be excavated to the depth required.

Pave the floor with brick laid on flat on a 2-inch bed of sand, which has been well watered and rammed. Grout all joints with mortar composed of one part of cement to two parts of sand; lay the floor with a fall of 1½ inches in 10 feet, to the traverse drain, which is to be laid with a fall into the main drain at back of sty. The main drain to be formed of bricks laid with their length across the drain, and a splayed brick at each side. The traverse drain is 9 inches wide, and formed by sinking the floor bricks slightly.

The story posts are to be of 4-in. x 4-in. jarrah or redgum; all other timber required for framing to be of hardwood. Fence posts of 3 in. x 3 in. jarrah or redgum. Rails, pickets, and gate frames to be of hardwood.

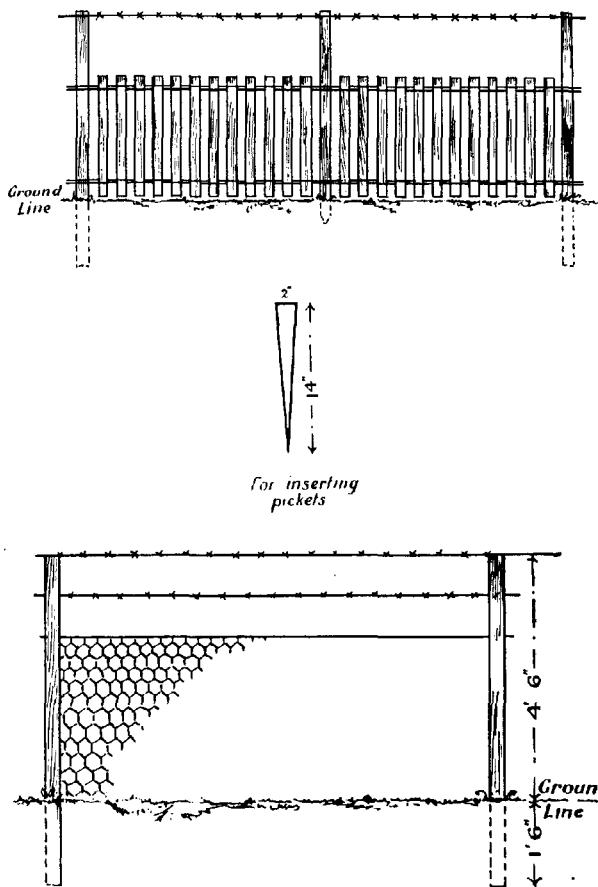
Flap over feeding trough to be constructed of 3-in. x 1-in. hardwood; framing covered with corrugated galvanized iron. Grid to be made of 3-in. x 1-in. hardwood. Cover the roof and framing where shown with 26-gauge corrugated iron, to be secured with 2-inch galvanized screws and washers.

The whole of framing to be checked and fitted in a workmanlike manner, and to be securely fastened with wire nails.

#### FENCES.

When pigs are kept in runs the question of fencing is one of importance. If the run is of a fair size, of about an acre or more, a wire-netting fence may be satisfactory. The posts may be 6 in. x 3 in. in thickness and 6 feet in length, placed 18 inches in the ground. The distance between the posts 9 or 10 feet, or with two droppers between they may be 27 feet apart. The straining posts should be 2 ft. 6 in. to 3 feet in the ground. Along the bottom of the posts 12-gauge barb wire should be run. Then wire netting 36 inches wide, 17-gauge, and the mesh should not be more than 2½ inches. If it is of coarser mesh the pigs will break through. A plain galvanized wire, No. 8 gauge, may be run along the top of the netting, to which it is fastened either with wire or clips. A barbed wire should be fastened about 6 inches above the netting, and another along the top of the posts, or 2 or 3 inches below.

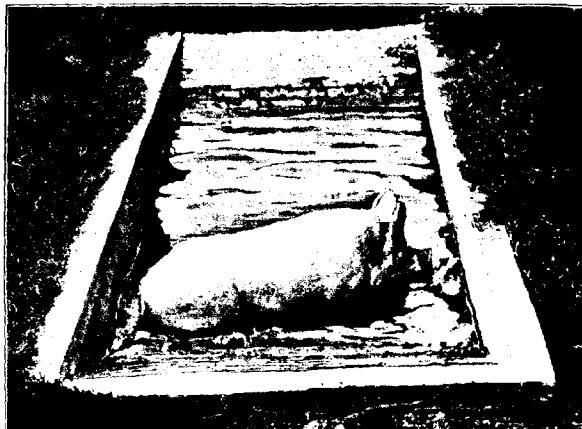
One of the best and cheapest fences for pigs' paddocks is constructed of woven wire and pickets. The posts can be placed 12 feet apart, with a stout stake driven into the ground midway between the posts. In this fence the posts should be 6 ft. 6 in. long and 2 feet in the ground. The



Fencing for Pig Paddocks

method of erection is: First put up four wires, two top and two bottom, and these are best run through holes bored in the posts. Now slip the pickets in between the wires, a pointed instrument, 2 inches in diameter at one end and tapering to nothing at the other, and 14 inches long, being

used to open the wires and knock the pickets into place. It will be found necessary to slacken the wires occasionally as the pickets are being placed in position, consequently they should not be made fast until all



Concrete Bath for Pigs.

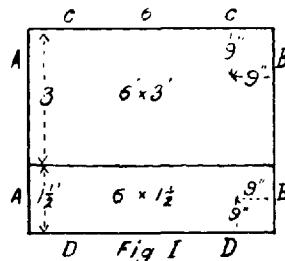


Fig 1

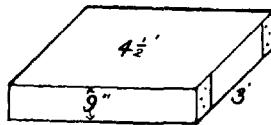


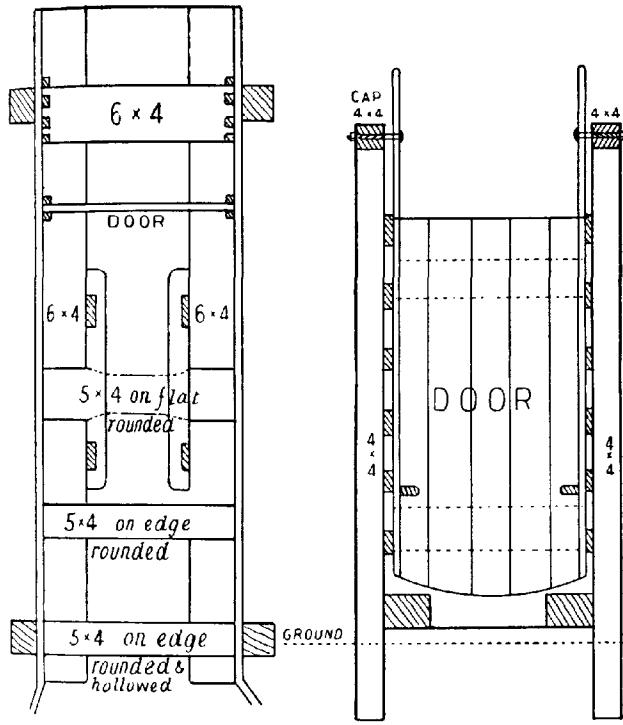
Fig 2

Galvanized Iron Bath for Pigs.

the pickets are in place; they must, however, be kept taut. Take a turn round the end post, and play out the wires as required, or fasten a log of wood at the end, and let it drag as the pickets are woven in. Use

No. 8 galvanized wire. Three feet or 3-ft. 6-in. pickets will do for this fence, with wire, barbed or plain, along the top.

There is a new kind of woven fencing wire on the market, which should be satisfactory for pigs if in the heavy gauge. It is known as "K" woven wire fencing.

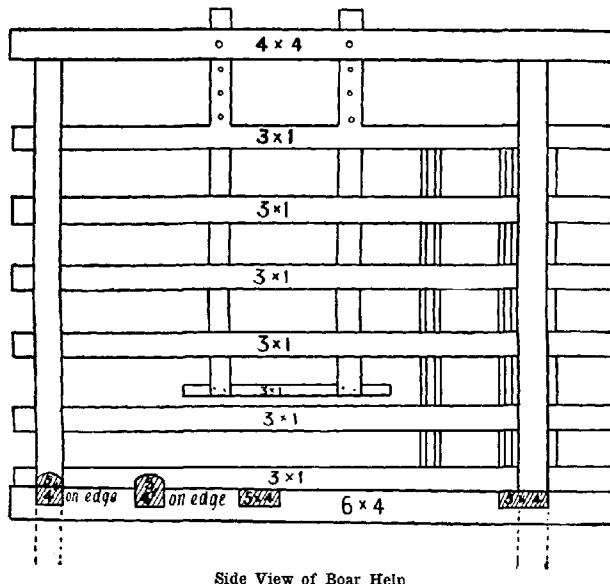


Boar Help, Designed by Mr. W. H. Walker, of Tenterfield.

#### THE WATER BATH.

Pigs, more than any other animals, are subject to affection by heat. As a safeguard against this water should be available, so that they can wallow in it. If possible, a creek or a dam should be included in the pig paddock. If this is not possible, a bath may be made of concrete. The illustration shown is taken from the work on "Pigs and Their Management," by Mr. H. W. Potts, Principal Hawkesbury Agricultural College. Galvanized iron may also be used for this purpose, and

the bath let into the ground. The one illustrated is 4 ft. 6 in. long by 3 feet wide and 9 inches deep. Plain galvanized iron, 24-gauge, is used. One sheet, 6 feet x 3 feet, and half a sheet, 6 feet x 1½ feet. These are riveted and soldered together. Then, 9 inches from each corner a cut is put into the sheets for 9 inches, as shown by the dotted lines. A line is marked from A to B, and the edges turned up to form the sides 9 inches deep. Lines are drawn from C to D, and the edges turned up to form the ends. The projecting pieces at the corners are bent round and



Side View of Boar Help.

riveted on to the end. The joints require soldering, and 1 inch hard-wood boards may be fastened round to protect the edges. About twenty gallons will one-quarter fill the bath, and a little should be placed in daily to replace that lost by evaporation. A small quantity of kerosene in the water will lessen evaporation, and help to keep down vermin.

#### A BOAR HELP.

The plan given for this in Mr. Potts' book will be found very good, and almost explains itself. The length of the pen is 6 feet and width 2 feet. The rests are made to slide so that the rests may be placed about half way down the sides of the sows. In this way heavy old boars may be used on young sows.

## VINEGROWERS' FIELD DAY AT RUTHERGLEN.

## A SPLENDID GATHERING.

(From the *Rutherglen Sun.*)

On Friday, 19th March, there was an attendance of about 200 at Viticultural Nursery, Wahgunyah, to view the work that had been carried out during the year. The gathering included growers of the Rutherglen, Barnawartha, Chiltern, Corowa, and Albury districts, and considerable interest was taken in the work. The staff, during the day, had many questions to answer.

The visitors began to arrive at the Nursery shortly after 2 o'clock, and at 2.30 p.m. proceedings were commenced.



Lifting Grafted Rootlings, Wahgunyah Nursery.

Mr. D. B. Smith, chairman of the Vinegrowers' Progress Committee, stated that he was pleased to see such a fine gathering. He extended a welcome to the teachers of the district and their pupils. He thought it was an admirable idea to get the teachers and children to take an interest in one of the principal industries of the district. They were assembled to inspect the work of the college staff for the past year. Mr. Adecock, the principal, and Mr. Wilkinson, the vineyard superintendent, would explain what had been done, and after the inspection Mr. F. de Castella would deliver short addresses. He was pleased that Mr. Richardson, Superintendent for Agriculture, was present, and extended to him a hearty welcome. He also wished to thank the officials for affording growers the opportunity to visit the nursery.

Mr. A. E. V. Richardson, Agricultural Superintendent, stated that, on behalf of the Department, he extended a hearty welcome to all to the

Wahgunyah Nursery, and he was delighted to see such a fine gathering. He trusted that they would be interested in the work in progress. Before the inspection of the nursery took place he wished to say a few words in reference to the work that was being carried out, and what was being done to carry out the promises made when the Honorable the Minister visited the district. During the past season 600,000 phylloxera-resistant stocks, grafted and ungrafted, had been planted, and it was gratifying for him to be able to state that, although there had been a severe drought, at present they had a 60 per cent. strike, and that would give 400,000 grafted vines and ungrafted rootlings for distribution. The department was doing its best to cope with the demands for grafted vines, but one of the difficulties had been the procuring of suitable grafting wood. To overcome this difficulty, a neglected vineyard of mother stocks at Château Tabilk had been grafted, cultivated, and irrigated, and was being brought back to a proper condition. They also had grafted a



Severing Scion Roots, Wahgunyah Nursery.

20-acre vineyard at Violet Town with mother wood, and these should give a good increased supply. A new vineyard of mother wood, comprising 30 acres, had been planted near the college, but for the next year or two they could not expect much off this area. It was the desire of the Department to overtake the demand, and its object was to turn out 1,000,000 grafted vines yearly. This would be sufficient to reconstitute, approximately, 2,000 acres yearly, and they intended to keep that up until the vine-growing industry was brought back to the flourishing condition it was in previous to the outbreak of phylloxera. (Applause.) Growers would notice that the Department had added another branch of work to the nursery, *viz.*, the propagation of citrus trees, but this was not to interfere with the expansion of the viticultural work. This new branch was under the supervision of Mr. Carmody. There had been a big demand from the irrigation areas for citrus trees, and, although as

much as £8 10s. per 100 was offered for trees, intending planters had a difficulty in getting supplies. The Department had decided to provide these trees, and had established a nursery at Wahgunyah, where the soil was suitable for propagation. They would notice that Mr. Carmody had already 25,000 young trees planted out in the nursery, and 100,000 seedlings growing in the seed beds, which were looking well. An addition of 20 acres of land acquired from the trustees of the recreation reserve had been made to the nursery. A new pumping plant for irrigation purposes, with double the capacity of the present plant, was being installed, and the Department was going ahead as fast as the finances of the Treasury would allow. (Applause.) He would invite growers to take a walk through the nursery, and Messrs. Adecock, Castella, Carmody, and Wilkinson would give information as to the work.



Grafted Rootlings Ready for Distribution, Wahgunyah Nursery.

Mr. G. H. Adecock, Principal of the Viticultural College, stated that he noticed that he was down for an address on the propagation of the vine, but he thought it would be better for him to explain as they walked through the nursery. A lot of the work carried out at the nursery was underground and not on the surface. He thought that the Department was now working on the right lines for the reconstitution of the vineyards.

During the walk through the nursery Mr. Adecock, Mr. Wilkinson, and Mr. Carmody explained to growers the varieties planted in the different beds; also the varieties that they had found best suited to each other. When the young citrus trees plantation was reached there was a general expression of surprise, and the staff was congratulated.

Mr. Carmody, Chief Orchard Supervisor of the Department, said—It may be of interest to learn the reasons for the Department of Agriculture establishing a citrus nursery instead of allowing intending growers

to obtain their supplies from private nurseries. In the first place, owing to the impetus given to the fruit industry through the opening up of suitable areas in northern districts subject to irrigation, a sufficient supply of this class of fruit was not available; and, secondly, the industry did not at its inception enter into competition with any similar industry carried on by private enterprise, as the Department was practically the first in the field in this State, so that growers were compelled to go to New South Wales for their supplies. Under these conditions considerable losses ensued owing to the planting out of unacclimatized trees. Settlers found that the cost of establishing a citrus grove was too great for their resources, and, in order to relieve them to some extent, the Department considered it wise to produce the trees they required under conditions similar to those to which they would be subsequently subject.



Bench Grafting, Wahgunyah Nursery.

At the Wahgunyah Nursery, which was started in September, and is a continuation of the work previously begun at Burwood, there are planted out in the field 25,000 sour orange seedlings, which are doing remarkably well. In addition, there are 100,000 well-grown young seedlings of the same origin in the seed beds, and which will be transplanted after being hardened off in the early spring. These stocks will be ready for budding next autumn. It is as well to understand that the growth of these stocks is much less free than the lemon stock, and the resultant trees will also be not only slower in their growth, but the period of coming into fruit will be later. To compensate for this, however, the trees are considered to be much less susceptible to collar rot under irrigation conditions, so that there is less likelihood of individual trees

dying here and there in the orchard. It must be clearly understood that the accumulated returns are the product of each individual tree, so that if there are many failures in a grove it may become unprofitable to work. Again, it is generally recognised, not only amongst experienced growers of this State, but also by those of California and other countries, where the citrus is extensively cultivated, that trees worked on the sour orange stock have much longer existence than those worked on the lemon, so that persons planting out trees of this character can look forward to years of profit beyond those worked on different lines. It is very pleasing to find that the young orange seedlings have done so extremely well in this district, even under abnormal conditions, and it is but reasonable to expect that in the near future growers will be in a position to obtain trees locally grown, and consequently readily transferable to districts in the northern areas.

When the inspection was over, and when the "direct producers" were reached, Mr. de Castella, Government Viticulturist, explained how these hybrid vines had been raised, so as to combine in one the resistance to phylloxera of the American with the quality of fruit of the European parent. Though complete success has not yet been achieved, since the fruit is not equal to that of the best "viniferas," nor the phylloxera resistance equal to that of our best stocks, notable progress has been made, and many of this group are decidedly interesting. Among the best is Coudere's No. 132-11—a good bearer, whose well-filled bunches of black grapes were still hanging on the vine. Although possessing no foreign flavour, birds do not seem to fancy this vine. It appears to be bird proof! This and several other direct producers are well worth trial on a commercial scale, though caution was advised in view of the undesirability of altering, through too hasty plantation of any new variety, the type of wine for which Rutherglen is now so well known.

A move was then made to the grafting shed, where the Chairman called on Mr. de Castella to describe the behaviour of the leading stocks during the past season.

Mr. de Castella briefly outlined the disastrous weather conditions of the season which has just closed. The rainfall for 1914 was only 14½ inches, of which 4 inches fell in December. Before these December rains the situation appeared to be desperate, and there were most gloomy forebodings. It was feared that the resistant stocks were no longer to be relied on, that they would succumb in their turn, &c. The timely arrival of the December rains and the marvellous response of the vines dispelled these exaggerated fears. Growers soon understood that the resistant stock was not to blame. The vine, whether grafted or ungrafted, needs a certain amount of moisture in the subsoil. Unless this was available it could not prosper. Though the present season would seem to be an ideal one to test the drought resistance of the different stocks, this was not altogether so. The recovery since the rain had been an all-round one, and there were now less marked differences between the different stocks than one might expect. Nevertheless, there were interesting inferences to be drawn, and a thorough inspection of the whole district was being carried out, the results of which would be embodied in a detailed report, which it was hoped might contain information of use to intending planters.

A detailed account of the behaviour of each stock was held over, on the suggestion of the Chairman, for another meeting, as the hour was growing late.

As regards the future, Mr. de Castella was very hopeful; there was no cause for alarm. The recovery of the vines since the December rains has permitted the accumulation of almost normal reserves, which would render possible a fair start next season. Nevertheless, the vines have gone through a very severe trial, and they need a rest cure and a tonic—a rest cure in the shape of much shorter pruning this coming winter, and, as a tonic, liberal manuring. A dressing of at least half a cwt. per acre of nitrate of soda was strongly recommended. Sulphate of ammonia, though cheaper, would not give the same results in our limeless soils. Blood manure would also prove beneficial. Thorough cultivation was also strongly recommended—plough early and plough deep, and cultivate thoroughly afterwards.



Nursery in Primitive State, Wahgunyah.

In conclusion, vineyard owners were reminded of the large quantity of fodder they possessed in the shape of vine prunings. These possess a high food value, and if chaffed and crushed in a cornercrusher they would undoubtedly prove capable of saving from starvation very many head of stock. Being somewhat indigestible, they would benefit by mixing with other fodder.

Mr. D. B. Smith stated that the growers were indebted to Messrs. Richardson, Carmody, Adecock, and de Castella for their explanations. He would ask Mr. Richardson to convey to the Honorable the Minister that the growers had no requests to make, and that they were well satisfied with the thoroughness in which Messrs. Adecock, Wilkinson, and the staff were carrying out the work. (Applause.)

## GOVERNMENT CERTIFICATION OF STALLIONS.

## EIGHTH ANNUAL REPORT (SEASON 1914) ON THE VETERINARY EXAMINATION OF STALLIONS FOR GOVERNMENT CERTIFICATE OF SOUNDNESS AND APPROVAL.

By W. A. N. Robertson, B.V.Sc., Chief Veterinary Officer.

The system of examination of stallions for Government certification having been in operation for a period of eight years, has now become so familiar to all, that it is unnecessary to enter into any description of the steps that led to its introduction. The Table, given at a later stage, analyzing the last season's work will show that a total of 603 stallions was examined. This is the lowest number that has been presented during any previous season, the average over the seven years being 911. This diminution may be taken as a reflex of the number of castrations following the previous season's work, when stallions were sold at below gelding prices. That a large number of these carrying certificates were so dealt with is shown by the fact that, in the season 1913-14, 244 three-year-olds and 229 four-year-olds, or a total of 473 of these ages, were certificated, whilst in the following season, 1914-15, only 85 four-year-olds and 152 five-year-olds, or a total of 237, were presented for re-examination. The lesson was a very salutary one, and breeders could do nothing else than take it to heart and keep only the best of their rising generation of colts, and so a general steadyng of the market was brought about. The number of horses introduced from New Zealand, also showing a fall on previous years, indicates that the lesson has been far-reaching.

Table I., showing the imports of horses from Great Britain and from New Zealand:—

## FROM NEW ZEALAND.

Year.	Draught Horses.				Light Horses.				Grand Total.
	Stallions.	Mares.	Geldings.	Total.	Stallions.	Mares.	Geldings.	Total.	
1910-11	292	1,786	758	2,836	11	16	10	37	2,873
1911-12	246	452	208	906	12	35	14	61	967
1912-13	173	113	40	326	4	19	9	32	353
1913-14	125	51	6	182	5	9	6	20	202

## HORSES FROM GREAT BRITAIN.

Year.	Shires.	Clydesdales.	Thoroughbreds.	Other.	Total.
1910-11	..	51	4	65	14
1911-12	..	67	38	39	27
1912-13	..	7	3	62	3
1913-14	..	2	7	21	7

For the future it can confidently be said that the outlook is a bright one for breeders. The drought experienced has been responsible for serious losses, while the wastage amongst the light breeds, on account of war, will all have to be made good. Some difficulty is always experienced in gauging the supply for the horse market, for the reason that a period of at least three years must elapse before a supply can be bred, by which time the demand may, for various reasons, have become slack. In this way there is a constant pendulum-like movement maintained. If the supply is of fair average quality the pendulum does not swing too far in either way, but when the market is flooded with a nondescript lot the fall is severely felt. Breeders, therefore, should remember the lesson of the past few years, and for the future prevent a repetition of "boom" and "fall" by an endeavour to uplift the standard. This can be done by careful consideration of the laws of breeding, more particularly in regard to the quality of the sire used.

During last season the number of parades held was 143, and a word of thanks is due to the Veterinary Staff for the able way in which all engagements were kept during a very strenuous period, covering, as it did, the proclamation of war and the shortening of the staff by enlistment for service, and my own absence from Melbourne. This necessitated calling upon Mr. Norman MacDonald to assist in the work, with which he was already familiar, having been in the service of the Department during the early years of examination.

The accompanying table shows the number of horses examined and the actions taken by the individual officers concerned in the examination during the past season:—

Officer.	Number Examined.	Number Certificated.	Number Rejected.	Per cent. Rejected.
Mr. R. Griffin, M.R.C.V.S. ....	227	144	83	36.56
Mr. R. N. Johnstone, B.V.Sc. ....	245	166	79	32.24
Mr. G. Heslop, B.V.Sc. ....	43	34	9	20.93
Mr. R. J. de C. Talbot, L.V.Sc. ....	61	39	22	36.06
Mr. N. McDonald, B.V.Sc. ....	21	13	8	38.09
Appeal Boards ....	6	1	5	83.33
<b>Totals ...</b>	<b>603</b>	<b>397</b>	<b>206</b>	<b>34.16</b>

#### EXAMINATIONS AND REJECTIONS.

Of the number of stallions examined, viz., 603, 34.16 per cent. were refused certificates. This is a slight increase on the figures for the previous year, when 30.53 per cent. were rejected. A study of the table following, showing the analysis of the season's work, will show that the difference is almost entirely due to rejections on account of unsoundness, and of the unsoundnesses, sidehorne is seen to be responsible, for 8.29 per cent. were refused on this account, as against 6.44 per cent. in 1913. There are no other variations in the results calling for comment.

## ANALYSIS OF DEFECTS OF REJECTS, SEASON 1914-15.

	Draughts.		Lights.		Ponies.		Totals.	
	Examined.	Certified.	Examined.	Certified.	Examined.	Certified.	Examined.	Certified.
	400	267	121	76	82	55	603	397
Rejected.	Per cent.	Rejected.	Rejected.	Per cent.	Rejected.	Per cent.	Rejected.	Per cent.
Rejected.	Rejected.	Rejected.	Rejected.	Rejected.	Rejected.	Rejected.	Rejected.	Rejected.
<i>Unsoundness.</i>								
Bog Spavin	...	25	5	4·13	5	6·10	11	...
Bone Spavin	1	25	...	...	...	...	1	1·82
Cataract	1	25	...	...	...	...	1	16
Chorea (shivering)	1	25	...	...	...	...	1	16
Curb	1	25	5	4·13	1	1·22	7	1·16
Navicular Disease	...	25	...	...	...	...	...	...
Nasal Disease	...	75	2	1·63	...	...	5	83
Ringbone	3	75	1	83	...	...	4	66
Roaring	3	75	...	...	...	...	...	...
Sidebone	50	12·50	1	83	1	1·22	50	8·29
Stringhalt	1	25	...	...	...	...	3	50
Thoroughpin	...	25	...	...	...	...	...	...
Whistling	1	25	...	...	...	...	1	16
Total unsound- nesses	62	15·6	14	11·57	7	8·54	83	13·75
Disapproved	71	17·75	32	26·45	20	24·39	123	20·40
Total rejected	133	33·25	46	38·02	27	2·93	206	34·16

*Re-examination.*—Two hundred and forty-eight horses, previously holding certificates, were presented for re-examination, as below:—

## HORSES SUBMITTED FOR RENEWAL OF CERTIFICATES 1914-1915.

Reasons for Rejection.	3 years.		4 years.		5 years.		Totals.	
	Examined.	Certified.	Examined.	Certified.	Examined.	Certified.	Examined.	Certified.
	11	9	85	72	152	107	248	188
Rejected.	Rejected.	Per cent. rejects.						
Disapproval	2	18·18	5	5·88	18	11·84	25	10·08
Sidebone	...	...	7	8·23	19	12·50	26	10·48
Ringbone	...	...	1	1·18	2	1·31	2	·81
Curb	...	...	...	...	1	·66	2	·81
Spavin	...	...	...	...	3	1·97	3	1·21
Roaring	...	...	...	...	1	·66	1	·40
Cataract	...	...	...	...	1	·66	1	·40
Total re- jections	2	18·18	13	15·29	45	29·60	60	24·19

Horses included in the above table are those which held, respectively, two, three, and four-year-old expired certificates, and, as previously pointed out, while in 1913 a total of 473 three and four year-olds were certificated, only 237 came up for re-examination last season. The greater part of the balance, 236, is probably accounted for by castrations and deaths; but that there are 236 expired certificated in the one season's operations which have not been presented to the Department should make users of stallions and probable purchasers careful to examine all certificates that are held out as an inducement to business.

#### TRANSFERRED CERTIFICATES.

The number of certificates presented for transfer for Victorian Government Certificates is as follows:—

New Zealand	..	..	..	31
New South Wales	..	..	..	2
South Australia	..	..	..	1
Total	..	..	..	34

In addition to the above, a few certificates issued in other States were indorsed for recognition at Victorian shows. These were as follows:—

New South Wales	..	..	..	3
South Australia	..	..	..	3
Tasmania	..	..	..	1
Total	..	..	..	7

#### APPEALS.

The number of appeals lodged against rejection by Government officers was six, of this number four on the question of disapproval as regards type and conformation, and two as regards unsoundness. The boards, appointed in due course, to deal with these cases upheld the action of the officers in five of the cases, and recommended the issue of a certificate in the sixth.

#### TIME TABLE FOR COMING SEASON.

The time table published herewith of parades for the coming season is based, as near as possible, on the work of other years and upon the wishes of agricultural societies. It is hoped that the times as arranged will be kept; but it must be pointed out that, on account of the depletion of the Veterinary Staff for military services, it will be a matter of some difficulty, and circumstances may arise which will necessitate considerable alteration, and possibly reduction, in the number of parades. Agricultural societies have already been notified to such effect, and it is pleasing to record that all, appreciating the difficulty, are prepared to fall in with any alterations it may be found necessary to make. It would, therefore, be wise for breeders who have stallions to submit for examination to watch all local announcements on the subject.

## SUMMARY OF EIGHT YEARS' WORK, 1907-1914.

Season.	Draughts	Rejected.	Exmanded	Certified	Rejected.	Rejected.	Rejected.	Lions.		Ponies.		Totals.	
								Unsound	301	246	Unsound	32	497
1907-8	403	271	Unsound	93	23-32	301	246	Unsound	32	104	163	214	918
			Disapproved	30	8-32			Disapproved	32	7-64	186	18	15-04
											Disapproved	18	8-38
												28	13-08
1908-9	501	341	Unsound	132	32-75	293	242	Unsound	55	18-27	150	995	742
			Disapproved	137	27-33			Unsound	20	0-83	199	7-25	171
								Disapproved	24	4-50	130	17-38	177
											Disapproved	35	8-24
												40	20-10
												40	25-41
1909-10	410	275	Unsound	96	23-52	191	147	Unsound	121	6-27	156	112	757
			Disapproved	30	0-56			Disapproved	32	16-77	156	5	3-29
											Unsound	39	25-65
											Disapproved	39	22-09
1910-11	542	387	Unsound	135	33-08	293	242	Unsound	44	23-04	101	44	28-94
			Disapproved	117	21-37			Unsound	15	10-63	128	7	5-47
								Disapproved	20	7-08	101	Disapproved	813
												20	15-62
												20	13-09
												20	7-06
1911-12	642	534	Unsound	94	12-13	165	120	Unsound	35	11-61	35	27	21-09
			Disapproved	54	7-8			Disapproved	31	7-87	222	83	4-00
											Unsound	34	27-80
											Disapproved	34	22-57
1912-13	715	507	Unsound	136	19-94	293	242	Unsound	44	29-06	106	39	31-96
			Disapproved	62	12-03			Unsound	19	13-67	70	43	2-85
								Disapproved	14	10-07	70	35	9-54
											Unsound	10	11-39
											Disapproved	10	10-27
1913-14	718	507	Unsound	79	11-0	157	102	Unsound	35	23-74	157	27	38-57
			Disapproved	32	18-28			Disapproved	16	10-10	88	60	Unsound
											Disapproved	5	5-08
												28	26-14
												28	31-82
1914-15	401	267	Unsound	62	29-39	129	75	Unsound	55	35-03	82	55	8-53
			Disapproved	71	15-52			Unsound	14	11-55	46	38-01	83
								Disapproved	32	29-44	46	38-01	83
												27	32-92
												27	34-16

## REGULATIONS

### GOVERNING THE EXAMINATION OF STALLIONS FOR THE GOVERNMENT CERTIFICATE OF SOUNDNESS AND APPROVAL.

#### I.—EXAMINATION PARADES.

(1) Societies within whose district an Inspection Parade is appointed are required to provide a suitable place for the examinations to be conducted, and to suitably and reasonably advertise the holding of the parade on receipt of notice from the Department of the fixture. The secretary or some member of the committee of the society is required to be in attendance at the appointed time to assist the examining officer in the arrangements for the inspection.

(2) The Parades will be conducted and the Veterinary Officer will attend without expense to Societies other than that involved in advertising and making known the occasion to the public and the Stallion owners in the district, and providing the examination ground.

(3) The Examining Officer will attend Inspection Parades held at times and places set out in the official Time Table for the year, and all examinations of Stallions for the Government Certificate will be made at such Parades or on some such publicly advertised occasion, *unless* under special circumstances as provided for in clause 5.

(4) In the event of it being found impossible for local reasons to hold the Parade in any district at the time and date set out in the Time Table, notice to that effect—together with suggestions for alternative date and time compatible with the rest of the Time Table—should be given *not later than 1st June*, after which no alteration in the Time Table can be made.

(5) The special examination of stallions for the Government Certificate of Soundness at other than the advertised stallion parades may be arranged for in cases where, through accidental circumstances, the owner has failed to submit the horse at such parade.

Such examinations will only be arranged when the attendance of the Examining Officer will not interfere with the requirements of the Department for his services in other directions.

An owner requesting such special examinations will be required to prepay a fee of £1 1s. for each horse examined<sup>1</sup>; also the railway fare (first class return), and travelling expenses at the rate of 14s. per day, of the visiting officer.

#### II.—GROUNDS FOR REJECTION.

(1) Refusal of Certificate on the ground of unsoundness will be made only when, in the opinion of the Examining Officer, the horse is affected at the time of examination with one or more of the following hereditary unsoundnesses, viz.:—

Bog Spavin	Ringbone
Bone Spavin	Roaring
Cataract	Sidebone
Chorea "Shivering" or "Nervy"	Stringhalt
Curb	Thoroughpin
Navicular disease	Whistling
Nasal disease (Osteo-porosis)	

or such other hereditary unsoundness as the Minister may at any time declare. (Blemishes or unsoundness, the result—in the opinion of

the Examining Officer on appearances then presented—of accident, injury, and over-strain or over-work, will not disqualify.)

(2) For the purpose of these regulations the following shall be the definitions of "Ringbone," "Sidebone," and "Curb":—

- (a) Any exostosis on the antero or lateral aspect of the phalanges below the upper third of the *Os Suffraginis* shall constitute a Ringbone;
- (b) Any ossification of the lateral cartilage shall constitute a Sidebone;
- (c) Any circumscribed swelling on the posterior aspect of the hock in the median line and within the limits of the lower third of the hock and the head of the metatarsal bones shall constitute a Curb.

(3) The Certificate will also be refused in the case of animals considered by the Examining Officer to be below a reasonable standard for Government approval, as regards type, conformation, and breeding.

(4) Stallions three or four years old, which are refused a Certificate as regards type, conformation, and breeding may be re-submitted annually until five years old, after which the refusal shall be subject to review under Part V. of these regulations only.

(5) In the case of horses that have been rejected for any reason whatsoever, a notification containing all particulars of identification shall be sent to all Chief Veterinary officers of the other States of the Commonwealth as early as practicable after such examination has taken place.

### III.—CERTIFICATES.

(1) Particulars concerning the identity of the horse—name, breeder, pedigree, age, prior ownership, &c.—must be furnished to the Examining Officer at the time of examination. If deemed necessary in any case the owner may be called upon to furnish a statutory declaration as to the correctness of such particulars.

(2) Certificates will be issued within seven days of the holding of the Parades, and will be forwarded to the owner direct. Secretaries of Societies under whose auspices the Parade is held will be notified which, if any, of the horses submitted for examination obtain their Certificates.

(3) The owners of stallions for which a Certificate is refused will within seven days of such refusal be officially notified of the fact; the reason for such rejection will also be given.

(4) Until the issue of a Certificate, or until the publication of the official list of certificated stallions, the result of the Veterinary examination will not be communicated to any person except as herein provided or under circumstances as follow:—The Examining Officer may, on request on proper occasion, communicate to the owner or his agent—duly authorized in writing to inquire—the result of the examination. In case of refusal of the Certificate the reasons for refusal will not under any circumstances, save in legal proceedings under the direction of the Court, be communicated to any person except the owner or his agent duly authorized in writing. Secretaries of Societies, persons in charge of the horse, grooms or relatives of the owner will not be considered authorized agents for that purpose unless

they deliver to the officer the owner's signed authority to receive the information.

(5) The Victorian Government Certificate of Soundness can only be issued in respect of horses three years old and over, that have been examined by a Victorian Government Veterinary Officer, or horses in respect of which any of the following certificates are produced:—

The Government Certificate of Soundness of any Australian State or New Zealand.

The Veterinary Certificate of the Royal Shire Horse Society (England).

The Veterinary Certificate of Royal Agricultural Society (England).

The Veterinary Certificate of Royal Dublin Society (Ireland).

The Veterinary Certificate of Highland and Agricultural Society (Scotland).

The Veterinary Certificate of Glasgow and West of Scotland Agricultural Society.

The Veterinary Certificate of the Board of Agriculture and Fisheries (England).

The Veterinary Certificate of the Board of Agriculture (Scotland).

Provided that such horses have been examined in accordance with these regulations.

Any horse which has been rejected by the Veterinary Examiners for any of the above certificates will not be eligible for examination for the Victorian Government Certificate of Soundness.

(6) The form of the Victorian Government Certificate of Soundness is as follows:—“G.R.—Department of Agriculture, Victoria, No.

Certificate of Soundness and Approval, issued for the season (or issued for Life as the case may be), given in respect of the (breed) stallion (name and description of stallion) submitted for Government inspection by the owner (name of owner) at (place of examination) such horse having been found suitable for stud service and free from hereditary unsoundness and defects of conformation predisposing thereto on examination by (signature of Examining Officer) Veterinary Officer on the day of

19

(Signature).

Chief Veterinary Officer.

Issued by direction of the Minister of Agriculture.

(Signature).

Secretary for Agriculture.”

(7) Two-year-old colts may be submitted for examination and a temporary certificate will be issued in respect of such as pass the examination. Such temporary certificate must not be taken to imply suitability for stud service or approval as regards type, nor is the issue of it intended as an indication of the likelihood of a certificate being issued when submitted for examination at a more mature age.

(8) The season in respect of Government Certificates shall be considered as opening on 1st July. Stallions passing the examination any

time during the three months previous to this date in New Zealand or Australia will be granted a Certificate for the season next following. In respect of stallions examined in Great Britain examinations on or after 1st January will be considered as examinations for the following season.

#### IV.—TENURE OF CERTIFICATE.

(1) Certificates issued during the season in respect of horses five years old and over are life certificates; those for three-year-olds and four-year-olds are season certificates only, and such horses must be submitted for re-examination at four and five years before a life certificate will be issued.

(2) The Season certificate issued in respect of any horse must be handed to the Examining Officer at the time of re-examination or forwarded to the Chief Veterinary Officer before a subsequent Season certificate or a Life certificate will be issued.

(3) The Minister retains the right to at any time have a certificated stallion submitted for re-examination, and to withdraw the certificate, in the event of the animal being declared, to his satisfaction, unsound.

#### V.—BOARD OF APPEAL.

(1) Any owner of a stallion who is dissatisfied with the refusal of a Government certificate in respect of his horse may appeal against the decision to the Minister at any time within *thirty* days of the examination, under the following conditions:—

(a) That the appeal be in writing and be accompanied by the lodgment of £5, such amount to be forfeited in the event of the appeal *not* being upheld, unless the Board shall for good cause otherwise direct.

(b) That the appeal be accompanied by an undertaking to pay any railway fares and hotel expenses incurred by the Board of Appeal in connexion with the settlement of the appeal.

(c) That, in the event of refusal having been on the ground of unsoundness, the appeal be accompanied by a certificate from a registered Veterinary Surgeon setting out that the horse has been found by him on examination since the refusal appealed against, to be free from all the unsoundnesses set out in Part II. of these regulations.

(d) That, in the event of refusal having been on the ground of being below standard for Government approval, the appeal be accompanied by a certificate from the President and two members of the Committee of the Society under whose auspices the parade was held, setting out that in their opinion the horse is of fit and proper type, conformation, and breeding to be approved as a stud horse.

(2) On receipt of Notice of Appeal in proper form, and with the above conditions complied with, the Minister will appoint a Board of Appeal, which shall consist of:—

(a) In the case of appeals against refusal of certificate on the ground of unsoundness, the Chief Veterinary Officer and two practising Veterinary Surgeons.

(b) In the case of appeals against refusal of certificate as being below standard for Government approval, the Chief Veterinary Officer and two horsemen of repute and standing.

Such Board shall act and decide on the appeal, and its decision shall be final, and *not subject to review*.

(3) In the event of the appeal being allowed, refund shall be made of the deposit, and any expenses paid by the appellant under Clause 1 (b). Further, the Board may recommend to the Minister the allowance of such of the expenses of the appellant in supporting his appeal as it may consider reasonable under the circumstances of the case, and the Minister may, in his discretion, confirm the recommendation in whole or in part, whereupon allowance shall be made to the appellant accordingly.

(4) No stallion in respect of which a Government certificate is refused will be allowed to be re-submitted for examination except in the case of an appeal or in such case as when a three or four years old stallion has been refused on account of type as herein provided for. In the event of any rejected stallion being re-submitted for examination under another name or under such circumstances as in the opinion of the Minister are calculated to mislead the Examining Officer into the belief that the horse has not previously been examined, the owner of such rejected stallion, if proved to the satisfaction of the Minister that he is responsible for such re-submission, shall be debarred from submitting any horse for examination for such period as the Minister shall determine.

#### NOTICE TO SECRETARIES OF AGRICULTURAL SOCIETIES.

Section "A" of the conditions to be complied with by Agricultural Societies before being eligible for participation in the annual Government grant is as follows:—

*"A.—That the awards of prizes in all classes for stallions, three years old and over, at the Society's Show must be subject to the possession by the exhibit of a Government certificate of soundness."*

In order to comply with the above, the special attention of show secretaries is invited to the receiving of entries in stallion classes. No entry should be received unless at the time of entry the Government certificate is produced, or unless satisfactory evidence is given that a Government certificate is held by the owner in respect of the exhibit. The awarding of a prize card and the withholding of prize money in respect of any exhibit shall not be deemed as compliance with the condition. Care should be taken also to see that the certificate is not out of date, that is to say:—

For three year-olds, a 1915 three-year-old certificate must be held.  
For four-year-olds, a 1915 four-year-old certificate must be held  
(the 1914 certificates are out of date).

STALLION PARADES, TIME TABLE—*continued.*

District and Date.	Place.	Time.	Officer Arrives.	Officer Departs.
<b>WIMMERA No. 3.</b>				
August 3 .. ..	Ararat ..	3 p.m. ..	1.29 p.m. ..	8.30 p.m.
August 4 .. ..	Stawell ..	11 a.m. ..	9.25 a.m. (3rd) ..	2.48 p.m.
August 5 .. ..	Minyip ..	2 p.m. ..	5.2 p.m. (4th) ..	5.2 p.m.
August 6 .. ..	Warracknabeal ..	9.30 a.m. ..	5.52 p.m. (5th) ..	11.15 a.m.
<b>MALLEE No. 2.</b>				
August 9 .. ..	Pyramid ..	3 p.m. ..	2.15 p.m. ..	2.15 p.m. (10th)
August 11 .. ..	Swan Hill ..	2 p.m. ..	5.31 p.m. (10th) ..	12 noon (12th)
August 12 .. ..	Kerang ..	2.30 p.m. ..	1.39 p.m. ..	6 a.m. (14th)
August 13 .. ..	Elmore ..	2 p.m. ..	1.11 p.m. ..	5.20 p.m.
<b>GOULBURN VALLEY No. 1.</b>				
August 9 .. ..	Dookie ..	2 p.m. ..	12.45 p.m. ..	4.5 p.m.
August 10 .. ..	Cobram ..	2 p.m. ..	10.52 p.m. (9th) ..	3.10 p.m.
August 11 .. ..	Numurkah ..	11 a.m. ..	4.28 p.m. (10th) ..	12.50 p.m.
August 11 .. ..	Nathalia ..	1.30 p.m. ..	1.25 p.m. ..	3.25 p.m.
August 12 .. ..	Shepparton ..	2 p.m. ..	5.29 p.m. (11th) ..	5.49 p.m.
August 13 .. ..	Murchison ..	9.30 a.m. ..	7.52 p.m. (12th) ..	10.58 a.m.
August 13 .. ..	Rushworth ..	2 p.m. ..	11.48 a.m. ..	5.20 p.m.
<b>NORTH-EASTERN No. 2.</b>				
August 9 .. ..	Seymour ..	3 p.m. ..	9.9 a.m. ..	8.33 p.m.
August 10 .. ..	Yea ..	9.30 a.m. ..	10.26 p.m. (9th) ..	10.33 a.m.
August 10 .. ..	Mansfield ..	2 p.m. ..	1.50 p.m. ..	3.30 p.m.
August 11 .. ..	Alexandra ..	2 p.m. ..	12.25 p.m. ..	4.40 p.m.
August 12 .. ..	Geelong ..	3 p.m. ..	12.49 p.m. ..	5.45 p.m.
August 13 .. ..	Frankston ..	3 p.m. ..	2.38 p.m. ..	5.40 p.m.
<b>GOULBURN VALLEY No. 2.</b>				
August 16 .. ..	Heathcote ..	2 p.m. ..	11.41 a.m. ..	8.17 p.m.
August 17 .. ..	Rochester ..	2 p.m. ..	1.36 p.m. ..	9.44 p.m.
August 18 .. ..	Echuca ..	1 p.m. ..	10.13 p.m. (17th) ..	2.55 p.m.
August 19 .. ..	Tatura ..	10 a.m. ..	5.38 p.m. (18th) ..	11.42 a.m.
August 19 .. ..	Kyabram ..	2 p.m. ..	12.50 p.m. ..	4.20 p.m.
August 20 .. ..	Euroa ..	2 p.m. ..	10.24 a.m. ..	6.33 p.m.
<b>WESTERN No. 1.</b>				
August 18 .. ..	Coleraine ..	10 a.m. ..	6.45 p.m. (17th) ..	11 a.m. (Driving)
August 18 .. ..	Casterton ..	3 p.m. ..	1 p.m. (Driving) ..	8.35 a.m. (19th)
August 19 .. ..	Portland ..	2 p.m. ..	1.6 p.m. ..	2.55 p.m.
August 20 .. ..	Port Fairy ..	11 a.m. ..	12.19 a.m. ..	1.30 p.m.
<b>WIMMERA No. 4.</b>				
August 17 .. ..	Kaniva ..	2 p.m. ..	2.28 a.m. ..	12.42 a.m. (18th)
August 18 .. ..	Nhill ..	2 p.m. ..	1.24 a.m. ..	1.34 a.m. (19th)
August 19 .. ..	Rainbow ..	1 p.m. ..	11.55 a.m. ..	2.40 p.m.
August 20 .. ..	Jeparit ..	2 p.m. ..	3.50 p.m. (19th) ..	9.53 p.m.

STALLION PARADES, TIME TABLE—*continued.*

District and Date*	Place.	Time.	Officer Arrives.	Officer Departs
<b>MALLEE No. 3.</b>				
August 23 ..	Clunes ..	1.45 p.m.	1.42 p.m. ..	3 p.m.
August 24 ..	Mildura ..	2 p.m. ..	7.20 a.m. ..	8 a.m. (25th)
August 25 ..	Ouyen ..	2 p.m. ..	10.30 a.m. ..	10.20 p.m.
<b>CENTRAL No. 1.</b>				
August 26 ..	Maryborough ..	2 p.m. ..	10 a.m. ..	6.5 a.m. (27th)
August 27 ..	Inglewood ..	11 a.m. ..	8.40 a.m. ..	2.10 p.m.
<b>WESTERN No. 2.</b>				
August 23 ..	Terang ..	2 p.m. ..	12.44 p.m. ..	9.53 p.m.
August 24 ..	Penshurst ..	2 p.m. ..	10.15 a.m. ..	4.50 p.m.
August 25 ..	Camperdown ..	2 p.m. ..	8.46 a.m. ..	9.18 p.m.
August 26 ..	Warrnambool ..	2 p.m. ..	10.58 p.m. (25th)	7.11 a.m. (27th)
August 27 ..	Colac ..	2 p.m. ..	10.9 a.m. ..	5.55 a.m. (28th)
August 28 ..	Werribee ..	10 a.m. ..	8.56 a.m. ..	1.36 p.m.
<b>NORTH EASTERN No. 3.</b>				
August 23 ..	Tallangatta ..	4.40 p.m. ..	4.35 p.m. ..	5 a.m. (24th)
August 24 ..	Corryong ..	3.30 p.m. ..	3.30 p.m. ..	7 a.m. (25th)
<b>GIPPSLAND No. 1.</b>				
August 30 ..	Mirboo ..	2 p.m. ..	1.50 p.m. ..	4.15 p.m.
August 31 ..	Morwell ..	10 a.m. ..	5.55 p.m. (30th)	11.57 a.m.
Augt 31 ..	Traralgon ..	2 p.m. ..	12.10 p.m. ..	12.20 p.m. (1st)
September 1 ..	Bairnsdale ..	3.30 p.m. ..	3.25 p.m. ..	5.40 a.m. (2nd)
September 2 ..	Maffra ..	2 p.m. ..	7.14 a.m. ..	7.18 a.m. (3rd)
September 3 ..	Bunyip ..	2 p.m. ..	11.25 a.m. ..	4.24 p.m.
September 4 ..	Melton ..	11 a.m. ..	8.41 a.m. ..	1.21 p.m.
<b>GIPPSLAND No. 2.</b>				
August 30 ..	Ballan ..	10 a.m. ..	10 a.m. ..	12.7 p.m.
August 31 ..	Bacchus ..	2 p.m. ..	12.39 p.m. ..	9.8 p.m.
			Marsh	
September 1 ..	Dandenong ..	3 p.m. ..	2.29 p.m. ..	5.19 p.m.
September 2 ..	Berwick ..	11 a.m. ..	5.42 p.m. (1st) ..	1.1 p.m.
September 2 ..	Warragul ..	3 p.m. ..	2.37 p.m. ..	10.45 a.m. (3rd)
September 3 ..	Trafalgar ..	2 p.m. ..	11.16 a.m. ..	6.51 p.m.
<b>GIPPSLAND No. 3.</b>				
September 6 ..	Lang Lang ..	2 p.m. ..	9.26 a.m. ..	7.3 p.m.
September 7 ..	Dalyston ..	2 p.m. ..	10.49 a.m. ..	4.20 p.m.
September 8 ..	Korumburra ..	2 p.m. ..	8.7 p.m. (7th) ..	6.34 p.m.
September 9 ..	Yarram ..	9.30 a.m. ..	9 a.m. ..	11.30 a.m.
September 9 ..	Foster ..	3 p.m. ..	2.1 p.m. ..	6.5 a.m. (10th)
September 10 ..	Leongatha ..	2 p.m. ..	7.20 a.m. ..	3.56 p.m.

For horses five years old and over, a life certificate must be held.

Horses holding Government certificates issued by any other State are not eligible to compete at shows unless such certificate is endorsed by the Victorian Department, "Recognised for Victorian Shows."

Particular attention is directed to the method now in vogue of classifying certificated stallions. The list is now divided into horses carrying a life certificate and those which are terminable, and supplementary lists will be issued annually which should be added to those listed in Bulletin No. 30, No. 17, and No. 24 (New Series).

Secretaries are strongly urged to become familiar with the regulations, particularly Regulation IV., which deals with the tenure of certificates.

Secretaries are required to *forward immediately after the show* a return (forms for which will be sent to each society) giving required particulars concerning 1st, 2nd, and 3rd prize winners as under:—

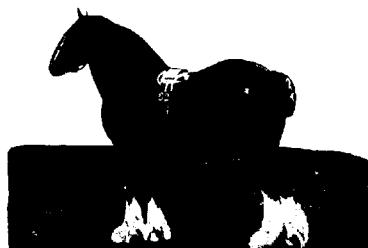
RETURN to be forwarded to the Chief Veterinary Officer concerning  
Stallions (three years old and over) awarded Prizes at the  
..... Agricultural Society's Show held .....

Name of Stallion.	Certificate Number.	Name of Class and Section (not Number).	Prize Awarded.			Owner's Name.	Owner's Address.
			1st.	2nd.	3rd.		

(Signed) : .....

Secretary . . . . . Agricultural Society.

Date .....



## STALLION PARADES.

## TIME TABLE.

(Subject to alteration on short notice.)

District and Date.	Place.	Time.	Officer Arrives.	Officer Departs.
SPECIALS.				
June 26 to Dec. 31 ..	Agricultural Offices	10 a.m. to 12 noon		
July 7 to July 10 ..	Horsham ..	10 a.m. ..		
July 14 ..	Hamilton ..	2 p.m. ..	12.57 a.m. ..	5.30 a.m. (15th)
July 15 ..	Balmoral ..	2 p.m. ..	11.30 a.m. ..	11 a.m. (16th)
July 19 to July 23 ..	City Horse Bazaar	10 a.m. ..		
July 29 ..	Bendigo ..	1.30 p.m. ..	11.20 a.m. ..	3.15 p.m.
July 26 to July 31 ..	Royal Show Grounds	10 a.m. ..		
MALLEE No. 1.				
July 20 .. ..	Quambatook	9.30 a.m. ..	6.35 p.m. (19th)	10.47 a.m.
July 20 .. ..	Boort ..	3 p.m. ..	12.12 p.m. ..	6.10 a.m. (21st)
July 21 .. ..	Charlton ..	2 p.m. ..	9.17 a.m. ..	4.28 p.m.
July 22 .. ..	Sea Lake ..	3 p.m. ..	9.55 p.m. (21st)	6.40 a.m. (23rd)
July 23 .. ..	Wycheproof	10 a.m. ..	10 a.m. ..	11.20 a.m.
WIMMERA No. 1.				
July 19 .. ..	Beaufort ..	2 p.m. ..	12.27 p.m. ..	8.35 p.m.
July 20 .. ..	Dimboola ..	1.30 p.m. ..	12.4 a.m. ..	3.20 p.m.
July 21 .. ..	Murton ..	2 p.m. ..	5.50 p.m. (20th)	4.30 p.m.
July 22 .. ..	Beulah ..	2 p.m. ..	7.57 p.m. (21st)	8.15 p.m.
July 23 .. ..	Hopetoun ..	9.30 a.m. ..	9.15 p.m. (22nd)	10.50 a.m.
WIMMERA No. 2.				
July 21 .. ..	Goroke ..	3.10 p.m. ..	3.10 p.m. ..	6.30 a.m. (22nd)
July 22 .. ..	Edenhope ..	3 p.m. ..	12 noon ..	1.30 p.m. (23rd)
MALLEE No. 2.				
August 2 .. ..	Castlemaine	3 p.m. ..	10.20 a.m. ..	10.38 a.m. (3rd)
August 3 .. ..	St. Arnaud	3.30 p.m. ..	3.22 p.m. ..	11.45 p.m.
August 4 .. ..	Donald ..	2 p.m. ..	12.34 a.m. ..	6 p.m.
August 5 .. ..	Wathcrom ..	2 p.m. ..	7.27 p.m. (4th)	7.10 p.m.
August 6 .. ..	Birchip ..	11 a.m. ..	7.45 p.m. (5th)	1.37 p.m.
NORTH-EASTERN No. 1.				
August 2 .. ..	Rutherglen ..	2 p.m. ..	1.48 p.m. ..	3.22 p.m.
August 3 .. ..	Yarrawonga ..	11 a.m. ..	10.5 p.m. (2nd)	2.45 p.m.
August 3 .. ..	Tungamah ..	3.30 p.m. ..	3.26 p.m. ..	8.6 a.m. (4th)
August 4 .. ..	Myrtleford ..	3 p.m. ..	2.54 p.m. ..	7.22 a.m. (5th)
August 5 .. ..	Wangaratta ..	2 p.m. ..	9.18 a.m. ..	4.37 p.m.
August 6 .. ..	Benalla ..	2 p.m. ..	5.20 p.m. (5th)	5.40 p.m.

STALLION PARADES, TIME TABLE—*continued.*

District and Date.	Place.	Time.	Officer Arrives.	Officer Departs.
CENTRAL No. 2.				
September 6 ..	Mernda ..	2 p.m. ..	12.24 p.m. ..	8.23 p.m.
September 7 ..	Kyneton ..	3 p.m. ..	2.55 p.m. ..	8.32 a.m. (8th)
September 8 ..	Daylesford ..	2 p.m. ..	11.59 a.m. ..	7.8 a.m. (9th)
September 9 ..	Smeaton ..	2 p.m. ..	9.50 a.m. ..	4.30 p.m.
September 10 ..	Ballarat ..	12 noon ..	6.35 p.m. (9th) ..	7.10 p.m.
SPECIAL.				
September 13 ..	Lilydale ..	2 p.m. ..	1.35 p.m. ..	5.20 p.m.
September 16 ..	Kilmore ..	2 p.m. ..	9.8 a.m. ..	8.40 p.m.
Sept. 20 to Sept. 25 ..	Royal Show ..			
September 29 ..	Romsey ..	2 p.m. ..	9.45 a.m. ..	5.25 p.m.
October 5 ..	Orbost ..	3 p.m. ..	2 p.m. ..	8 a.m. (6th)
October 6 ..	Omeo ..	3 p.m. ..	6.30 p.m. (5th) ..	6.30 a.m. (7th)



## SUPPLEMENTARY LIST OF LIFE CERTIFICATED STALLIONS.

Cert. No.	Name of Horse.	Age.	Owner.	Parade.	Date of Examination.	Officer.
DRAUGHTS.						
2663	Abbot's Pride	5 years	A. Robertson	Royal Grounds	Show 20.7.14	R.N.J.
2646	Admiral Nelson	5 years	J. Jeffrey	Numurkah	8.7.14	R.N.J.
—	Agitation ..	Aged	J. Ball ..	New South Wales Examination	3.4.14 ..	
2715	Agitator's Heir	5 years	J. Langford	Kerang ..	13.8.14	R.N.J.
2658	Atlas	5 years	R. C. Haunah	City Horse Bazaar	15.7.14	R.N.J.
2684	Baron Black	5 years	G. Young	Murton ..	29.7.14	G.H.
2740	Baron Brilliant	5 years	J. Archibald	Kyalram ..	20.8.14	R.N.J.
2712	Baron Laddie	5 years	A. McLenan	Heathcote ..	4.8.14	R.N.J.
2722	Baron Lough	5 years	Gerrard Bros.	Seymour ..	11.8.14	N.McD.
2751	Baron Watson	5 years	W. T. Manifold	Camerdown ..	26.8.14	R.G.
2797	Barony ..	5 years	A. G. Hunter	Seymour ..	9.10.14	Appeal Board
2665	Bay Knight	6 years	F. Howell	Royal Grounds	Show 20.7.14	R.N.J.
2679	Bonnie McFarlane	5 years	A. Robertson	Royal Grounds	Show 20.7.14	R.N.J.
2739	Briton Again	5 years	G. L. Claxton	Tatura ..	20.8.14	R.N.J.
2636	Briton's Pride	5 years	A. Cameron	Edenhepe ..	30.7.14	R.N.J.
2795	Brookdale	5 years	J. T. Poynton	Essay Special Exam.	6.10.14	R.J.T.
2747	Champion	5 years	H. Lee ..	Chimes ..	24.8.14	R.N.J.
2706	Coronation	5 years	O'Donnell Bros.	Shepparton ..	13.8.14	R.G.
2723	Dominion	5 years	A. Arnold	Warracknabeal ..	7.8.14	G.H.
2764	Donald Mac	5 years	W. J. Craig	Daldyton ..	31.8.14	R.N.J.
2667	Drysdale ..	5 years	E. Roberts	Royal Grounds	Show 20.7.14	R.N.J.
2647	Dunecraig Again	5 years	A. Dunning	Newmarket ..	8.7.14	R.N.J.
2710	Dunfald	5 years	H. A. Scott	Swan Hill ..	12.8.14	R.N.J.
2689	Dunlop's Chief	5 years	H. Doherty	Tumutnah ..	3.8.14	R.G.
2650	Dundell ..	5 years	G. Burrows	City Horse Bazaar	13.7.14	R.N.J.
2716	Dunrobin's Pride	5 years	T. Sutherland	Kerang ..	13.8.14	R.N.J.
2663	Dunsby Friar II.	5 years	G. Stokes	Royal Grounds	Show 20.7.14	R.N.J.
2730	Eaton Combination	5 years	F. Gerdis	Hamilton ..	18.8.14	R.G.
2587	Federation's Pride	5 years	F. R. Burns	Goroke ..	29.7.14	R.N.J.
2660	Flowerdale	5 years	E. Roberts	Royal Grounds	Show 20.7.14	R.N.J.
2670	Flowerdale Prince	5 years	M. Darcy	Royal Grounds	Show 20.7.14	R.N.J.
2655	Gay Gordon	5 years	F. Gollasch	City Horse Bazaar	13.7.14	R.G.
2724	General McDonald	5 years	J. Vickers	Elmore ..	14.8.14	R.N.J.
2648	Glen Gairn	5 years	J. MacGregor	Numurkah ..	8.7.14	R.N.J.
2779	Gowan Brae	5 years	R. I. Argyle	Kyneton ..	8.9.14	R.G.
2671	Harry Launder	5 years	Mrs. L. Andrews	Royal Grounds	Show 20.7.14	R.N.J.
2737	Hero	5 years	Cain Bros.	Echuca ..	19.8.14	R.N.J.
2677	Hiawatha of New Zealand	5 years	H. Coonan	New Zealand ..	29.6.14	..
2641	Highbank Chief	5 years	Noske Bros.	Horsham ..	30.6.14	R.G.
—	Invincible ..	5 years	J. McGregor	South Australian Exam.	7.7.14	..
2636	John O'Groat	5 years	W. Walter	Agricultural Offices	30.5.14	R.G.
2745	Karamu Glen Markie	5 years	M. McCormack	Mansfield ..	28.8.14	R.J.T.
2776	King's Own	5 years	J. Denham	Mirbon North ..	31.8.14	R.G.
2705	Laird O'Gowrie	5 years	J. Harper	Murchison ..	14.8.14	R.G.
2792	Laird of Lochiel	5 years	O'Neill Bros.	Orbost ..	6.10.14	R.G.
2702	Legislator	5 years	W. H. Ludemann	Dookie ..	10.8.14	R.G.
2672	Lilburne Regent	5 years	Jno. Hargreaves	Royal Grounds	Show 20.7.14	R.N.J.
—	Locksley ..	Aged	W. Potter	South Australian Exam.	20.8.10	..
2696	Lord Albyn	5 years	R. Sweetman	Minip ..	6.8.14	G.H.
2678	Lord Linden	5 years	H. Bodey	New Zealand ..	27.6.14	..
2657	Lord Nelson	5 years	E. J. Brown	City Horse Bazaar	13.7.14	R.G.
2758	Lord Phlinton	5 years	J. James	Colac ..	28.8.14	R.G.
2794	Lord Robert	Aged	J. Told	Oneo ..	10.10.14	R.J.T.
2783	Lord Ronald	5 years	E. J. Rickey	Royal Grounds	Show 21.9.14	R.J.T.
2731	Lord Shepherd	5 years	Noske Bros.	Hamilton ..	18.8.14	R.G.
2660	McGregor Again	5 years	G. Stokes	City Horse Bazaar	13.7.14	R.N.J.

## SUPPLEMENTARY LIST OF LIFE CERTIFICATED STALLIONS—continued.

Cert. No.	Name of Horse.	Age.	Owner.	Parade.	Date of Examination.	Officer.
2755	Major Oates	5 years	J. R. McKenzie Dept. of Agriculture	Glenroy Special Werribee	11.6.14 29.8.14	R.G. R.G.

## DRAUGHTS—continued.

2637	Major Dale	5 years	J. R. McKenzie	Glenroy Special	11.6.14	R.G.
2755	Major Oates	5 years	J. R. McKenzie Dept. of Agriculture	Werribee	29.8.14	R.G.
2649	Marshal Mills	5 years	Graham Bros.	Newmarket	8.7.14	R.N.J.
2753	Nailstone Buchanan	6 years	P. G. Allan and Son	Nhill	19.8.14	G.H.
2643	Newton Lad	5 years	P. Rogers	Horsham	30.6.14	R.N.J.
2753	Oakland's Pride	Aged	T. Dowsey	Ouyen	26.8.14	R.N.J.
2707	Onward O...	5 years	Exors. late R.	Shepparton	13.8.14	R.G.
2650	Politician	5 years	N. Stadelife	Currie	8.7.14	R.N.J.
2673	Premier Massey	5 years	J. Blair	Numurkah	8.7.14	R.N.J.
—	Pride of Moray	...	J. Archibald	Royal Grounds	20.7.14	R.N.J.
2700	Pride of the South	5 years	J. Kent	Tasmanian Exam.	9.10.12	G.H.
2790	Prince	5 years	A. McDonald	Warracknabeal	7.8.14	R.J.T.
2651	Prince Everett	5 years	Mitchell and O'Brien	Romey.	30.9.14	R.G.
2690	Prince Herd	5 years	J. Colvin	City Horse Bazaar	10.7.14	R.G.
2652	Radical	5 years	Mitchell and O'Brien	Tungamah	3.8.14	R.G.
2736	Repeater	5 years	E. A. Rethus	City Horse Bazaar	10.7.14	R.G.
2588	Ruby's Pride	5 years	W. G. Burns	Nhill	19.8.14	G.H.
2633	Royal Bob	5 years	T. Harroan	Goroke	29.7.14	R.N.J.
2708	Royal Churchill	5 years	H. Wright	Minyip	6.8.14	G.H.
2744	Royal Escort	5 years	Capt. J. A. Stewart-Balmain	Shepparton	13.8.14	R.G.
2748	Royal Gartley	5 years	S. Knight	Agricultural Offices	29.8.14	R.J.T.
2733	Royal Main	5 years	Stock Bros.	Terang	24.8.14	R.G.
2793	Royal Salute	5 years	J. T. Ogle	Casterton	19.8.14	R.G.
2783	Royal Standard	5 years	H. S. Graham	Newmarket Special	19.10.14	R.G.
2701	Royal Stewart	5 years	Den Bros.	Cobram Special	2.10.14	R.G.
2692	Rutymade	5 years	F. W. Grigg	Euroa	12.8.14	N.McD.
2674	Shopholder Plough...	5 years	E. M. Walter	Myrtleford	5.8.14	R.G.
2703	Statesman	5 years	J. Crane	Royal Grounds	20.7.14	R.N.J.
2661	Stewart's Pride	5 years	J. Bourke	Nathalia Special	12.8.14	R.G.
2653	Supremacy	5 years	Mitchell and O'Brien	City Horse Bazaar	14.7.14	R.N.J.
2754	Sir Isaac	6 years	McCann Bros.	Royal Show	21.9.14	R.J.T.
2714	Sir Wilfred	5 years	A. J. Mackay	St. Arnaud	5.8.14	R.N.J.
2694	Tairi Chief	5 years	J. Buckley	Rutherford	6.8.14	R.G.
2239	Tibberton Dray King	7 years	T. Withers and Sons	Wodonga Special	26.6.14	R.N.J.
2709	Titron Baron	5 years	Herkes Bros.	Pyramid	10.8.14	R.N.J.
2772	The Knight	5 years	E. R. Morton	Warragul	4.9.14	R.N.J.
2642	The MacPherson	5 years	Mitchell and O'Brien	Horsesham	30.6.14	R.N.J.
2676	The Premier	5 years	Symon Bros.	Bendigo	23.7.14	R.N.J.
2662	The Stewart	5 years	A. Colvin	City Horse Bazaar	13.7.14	R.N.J.
2750	Understade Senator	5 years	R. A. Smales	Mildura	25.8.14	R.N.J.
2731	W. MacGregor	5 years	Wm. Mactrass	Ouyen	26.8.14	R.N.J.
2770	Wigtownshire	5 years	Burton Bros.	Nairn	3.9.14	R.J.T.
2773	Young Clyde	5 years	J. Harkins	Beechus Marsh	10.9.14	R.J.T.
2743	Young Crown	5 years	Wyatt Bros.	Rainbow	25.8.14	R.J.T.
2675	Young Seddon	6 years	Holmes and Boadie	Royal Show	20.7.14	R.N.J.
				Grounds		

## THOROUGHBREDS.

2720	All Green	6 years	R. W. Storey	Euroa	12.8.14	N.McD.
2635	Braw Seal	Aged	D. Keay	Newmarket Special	15.5.14	G.H.
2634	Count Traquair	5 years	D. Keay	Caulfield Special	11.5.14	R.G.
2777	Galveston	5 years	W. Barry	Yarram	10.9.14	R.N.J.
2780	Gimpay	Aged	P. A. Harrington	Kilmore	17.9.14	R.J.T.
2721	Maltfield	6 years	R. W. Storey	Euroa	12.8.14	N.McD.
—	Orlano	Aged	J. Williams	New South Wales	15.9.11	..
2838	Portable	Aged	E. H. Waller	Exam.	25.6.14	R.G.
—	Swirl	Aged	B. M. Burns	Balclava Special	27.10.10	..
				South Australian Exam.		

## SUPPLEMENTARY LIST OF LIFE CERTIFICATED STALLIONS—continued.

Cert. No.	Name of Horse.	Age.	Owner.	Parade.	Date of Examination.	Officer.
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## LIGHT HORSES.

2799	Almont B.	5 years	D. H. Hutchison	Van Yean Special	11.12.14	R.G.
2767	Almont M.	Aged	J. Minns	Melton	5.9.14	R.J.T.
2781	Azraak	6 years	B. Follett-Sandford	Royal Show Grounds	19.9.14	R.J.T.
2763	Cashier	Aged	A. W. Acocks	South Australian Exam.	14.9.14	..
2640	Commonwealth	5 years	S. Matheson	Horsham	30.6.14	R.N.J.
2798	Dustwood	5 years	C. L. B. McLure	Agricultural Offices	7.11.14	R.J.T.
2726	Gentleman George	5 years	A. T. Jones	Geelong	13.8.14	N.McD.
2713	Elway	5 years	H. O'Connor	Heathcote	4.8.14	R.N.J.
2665	Highland Cleve	6 years	T. Larcombe	City Horse Bazaar	13.7.14	R.G.
2695	Honest Cleve	3 years	O. Vinee	Minyip	6.8.14	G.H.
2704	Juggler II.	Aged	G. J. Crisp	Agricultural Offices	15.8.14	R.G.
2768	Kemp Daly	Aged	G. H. Minns	Melton	5.9.14	R.J.T.
2787	Leeway	Aged	R. Carmichael	Portarlington	22.9.14	R.G.
				Special		
2699	Lord Bingen	6 years	J. Pilkington	Warracknabeal	7.8.14	G.H.
2727	Marschal Wilks	5 years	E. McTeer	Geelong	13.8.14	N.McD.
2757	Oakwood King	6 years	G. Woolerton	Marchborough	27.8.14	R.N.J.
2761	Prince Kirk	Aged	T. Carmody	Warrnambool	27.8.14	R.G.
2760	Sam J.	5 years	N. Jones	Warrthree	29.8.14	R.G.
2766	Sharpshooter	Aged	J. J. and W.	corryong	2.9.14	R.J.T.
2729	Titanic	5 years	Wm. Day	Geelong	13.8.14	N.McD.
2746	Walter Bell Boy	6 years	C. Ridley	Agricultural Offices	22.8.14	R.N.J.
2630	Welcome Lock	5 years	D. Cantini	Bendigo	23.7.14	R.N.J.
2654	Wernicke	Aged	H. Ridett	Agricultural Offices	11.7.14	R.G.
2683	Willywawa	5 years	R. R. Edvyan	Charlton	29.7.14	R.G.
2681	Yarrabob McKinney	6 years	B. R. Wright	Bendigo	23.7.14	R.N.J.
2734	Young Clarionet	5 years	J. Mitchell	Rochester	18.8.14	R.N.J.
2691	Young Majestic	5 years	J. Moroney	Yarrawonga	4.8.14	R.G.
2738	Young Swivel	Aged	E. Guppy	Bonella	20.8.14	R.N.J.

## PONIES.

2664	Astrologer	6 years	L. W. Clark	Royal Grounds	Show	20.7.14	R.N.J.
2762	Brigham III.	6 years	D. McKenzie	Colac		23.8.14	R.G.
2769	Captain	Aged	W. Kirkham	Dandenong		2.9.14	R.N.J.
2771	Chamberlain	Aged	A. L. Hardie	Warragul		4.9.14	..
2774	Claymore	5 years	J. P. Hanrahan	Ballan		11.9.14	R.J.T.
2666	Concussion	5 years	W. R. Smith	Royal Grounds	Show	20.7.14	R.N.J.
2875	Dandy Lad	5 years	Stuckey Bros.	Traralgon		1.9.14	R.G.
2773	Every Time	5 years	R. Crozier	Mornda		7.9.14	R.G.
2759	Haleyon	6 years	Mrs. McLellan	Windsor Special		29.8.14	R.N.J.
2725	Haloo Ragtime	5 years	O. A. Millard	New South Wales		6.4.14	..
				Exam.			
2682	Harry Lauder	5 years	W. E. Rosling	Agricultural Offices		25.7.14	R.N.J.
2697	Honesty	6 years	Quinlan McLean	Minyip		6.8.14	G.H.
2741	Ironbark	5 years	J. Price	Portland		20.8.14	R.G.
2645	Kelpie	5 years	P. Williams	Agricultural Offices		4.7.14	R.N.J.
2685	King Bee	5 years	W. T. McAlpine	Hopetoun		31.7.13	G.H.
2782	Leo Prince	5 years	M. Nathan	Royal Show		19.9.14	R.N.J.
				Grounds			
2756	Little Jim	5 years	C. Broadfoot	Maryborough		27.8.14	R.N.J.
—	Merriment	5 years	H. Thompson	New South Wales		..	..
				Exam.			
2728	Moorabool Lad	Aged	J. S. Thompson	Geelong		13.8.14	N.McD.
2742	Polo King	6 years	J. E. Ryan	Portland		20.8.14	R.G.
2693	Punter	Aged	J. Hiskins	Rutherford		6.8.14	R.G.
—	Ride Boy	..	P. R. Cooke	New South Wales		11.5.14	..
				Examination			
2732	Scottie	5 years	J. Roachford	Hamilton		18.8.14	R.G.
2755	Shanter	5 years	Wm. Rogers	Warrnambool		27.8.14	R.G.
2752	Silverton	5 years	D. McDonald	Camperdown		26.8.14	R.G.

SUPPLEMENTARY LIST OF LIFE CERTIFICATED STALLIONS—*continued.*

Cert. No.	Name of Horse.	Age.	Owner.	Parade.	Date of Examination.	Officer.	
2718	Tannas	...	Aged	J. Philip	Balmoral	19.8.14	G.H.
2749	Tankard	...	Aged	K. McKay	Penhurst	25.8.14	R.G.
2614	Tiger	...	6 years	S. H. Blaskey	Horsham	1.7.14	R.N.J.
2717	Tipperary	...	6 years	F. C. Smith	Oorooke	29.7.14	R.N.J.
2711	Warrack	...	5 years	Disosciati and	Swan Hill	12.8.14	R.N.J.
				Warburton			
2793	Wee Laddie	...	5 years	R. Perry	Orbost	6.10.14	R.G.
2755	Wolshman	...	5 years	W. H. Bowden	Royal Show	21.9.14	R.J.T.
					Grounds		
2786	What Ho	...	5 years	C. Jones	Royal Show	21.9.14	R.J.T.
2788	Wonder II.	...	Aged	F. McDonald	Grounds	27.8.14	R.J.T.
				Alexandra			

PONIES—*continued.*

2718	Tannas	...	Aged	J. Philip	Balmoral	19.8.14	G.H.
2749	Tankard	...	Aged	K. McKay	Penhurst	25.8.14	R.G.
2614	Tiger	...	6 years	S. H. Blaskey	Horsham	1.7.14	R.N.J.
2717	Tipperary	...	6 years	F. C. Smith	Oorooke	29.7.14	R.N.J.
2711	Warrack	...	5 years	Disosciati and	Swan Hill	12.8.14	R.N.J.
				Warburton			
2793	Wee Laddie	...	5 years	R. Perry	Orbost	6.10.14	R.G.
2755	Wolshman	...	5 years	W. H. Bowden	Royal Show	21.9.14	R.J.T.
					Grounds		
2786	What Ho	...	5 years	C. Jones	Royal Show	21.9.14	R.J.T.
2788	Wonder II.	...	Aged	F. McDonald	Grounds	27.8.14	R.J.T.
				Alexandra			

## LIST OF TERMINABLE CERTIFICATED STALLIONS.

(Four-year-old Certificates expiring 30th June, 1915.)

Cert. No.	Name of Horse.	Owner.	Parade.	Date of Examination.	Officer.
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## DRAUGHTS.

9204	Abbotsford Major	...	New Zealand Exam.	24.5.14	...
9811	Advance	...	Warrnambool Special	27.8.14	R.G.
9364	Albert Onward	...	Shepparton	12.8.14	R.G.
9334	Argyle	...	Warracknabeal	7.8.14	G.H.
9374	Baron	...	Castrerton	19.8.14	R.G.
9924	Baron Hope	...	Sale	3.9.14	R.G.
9694	Baron's Heir	...	New South Wales	3.4.14	...
			Exam.		
8943	Baron's Own	...	Balmattum Special	3.7.14	R.G.
9214	Baron Traill	...	New Zealand Exam.	29.5.14	...
9194	Bayswater	...	New Zealand Exam.	26.6.14	R.N.J.
9774	Blossom's Pride	...	Mildura	25.8.14	R.N.J.
8894	Border Prince	...	Horsham	1.7.14	R.G.
8654	Collins	J. Mitchell and O'Brien	City Horse Bazaar	10.7.14	R.N.J.
8984	Clan Campbell	W. A. Hammill	City Horse Bazaar	13.7.14	R.G.
9914	Coet Robin	A. J. Redenbach	Hairnsdale	2.9.14	R.G.
9744	Commander Yet	E. M. Waller	Alexandra	27.8.14	R.J.T.
9234	Conqueror	W. A. Creighton	St. Arnaud	5.8.14	R.N.J.
9514	Donald Stewart	Deky Bros.	Geelong	13.8.14	N McD.
9934	Drummond King	Madfern Bros.	Berwick	3.9.14	R.N.J.
9674	Drum Style	E. Greaves	Kyabram	20.8.14	R.N.J.
8604	Drumshie	R. Stewart	Glenroy Special	11.6.14	R.G.
8904	Everlasting	J. R. McKenzie	City Horse Bazaar	10.7.14	R.N.J.
9004	Federal Tax	W. Abram	Rochester	18.8.14	R.N.J.
9014	Graham Newton	J. McMurray	City Horse Bazaar	13.7.14	R.N.J.
8824	Gav Gorthland	F. W. Lewis	Glenroy Special	11.6.14	R.G.
9184	General Butler	J. W. McKenzie	New Zealand Exam.	26.6.14	...
9794	Grampian Star	E. M. Waller	Campdown	26.8.14	R.G.
9224	Cypso Hope	D. McDonald	New Zealand Exam.	24.5.14	...
9434	Hamilton's Pride	W. J. Brewer	Birchip	28.8.14	R.N.J.
9654	Hawthorn	King Bros.	Dimbola	20.8.14	G.H.
8874	Heather Loch	Ferry Bros.	Horsham	30.6.14	R.N.J.
9494	Khartoum	R. Tucker	Euroa	12.8.14	N McD.
		T. Wignell			

## LIST OF TERMINABLE CERTIFICATED STALLIONS—continued.

Cert. No.	Name of Horse.	Owner.	Parade.	Date of Examination.	Officer.
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## DRAUGHTS—continued.

928/4	Kilmarnock	Orton Bros.	Myrtleford	5.8.14	R.G.
906/4	King Billy	H. Younger	City Horse Bazaar	13.7.14	R.N.J.
855/4	King of the Kings	O. Muroso	Horsham	30.6.14	R.G.
929/4	King of the Valley	C. B. Woolyard	Wangaratta	7.8.13	R.G.
966/4	Lamark Again	W. J. Moll	Dimboola	20.8.14	G.H.
913/4	Land Lord	W. T. Loton	Royal Show Grounds	20.7.14	R.N.J.
968/4	Livingstone	E. and A. Breen	Kyabram	20.8.14	R.N.J.
953/4	Locust	G. Nuske and Sons	Hamilton	18.8.14	R.G.
1003/4	Lord Bindi	R. T. Corp	Omoo	18.8.14	R.J.T.
890/4	Lord Cashier	A. and J. H. Young	Horsham	30.6.14	R.N.J.
1004/4	Lord Dunwell	J. P. Slattery	Balarat Special	11.9.14	R.G.
902/4	Lord Gordon	Mitchell and O'Brien	City Horse Bazaar	10.7.14	R.G.
924/4	Lord Liverpool	W. T. Loton	New Zealand Exam.	24.5.14	R.J.T.
907/4	Lord Melbourne	J. McLeod	City Horse Bazaar	13.7.14	R.N.J.
917/4	McCormack's Fancy	E. M. Walter	New Zealand Exam.	26.6.14	R.G.
897/4	Main's Fancy	G. Allardice	City Horse Bazaar	10.7.14	R.G.
962/4	Major Lawrence	Berryman Bros.	Echuca	19.8.14	R.N.J.
993/4	Model Prince	P. E. Mathers	Sale	3.9.14	R.G.
930/4	Modest King	B. Jones	Wangaratta	7.8.14	R.G.
971/4	Newfield's Baron	J. Duxson	Stawell	24.8.14	R.J.T.
881/4	Newton Stewart	J. R. McKenzie	Glenroy Special	11.6.14	R.G.
968/4	Noble Knight	R. Baillie	Fair	20.8.14	R.N.J.
1007/4	Patriarch's Pride	M. J. O'Brien	Cobram Special	10.14	R.G.
990/4	Paymaster	W. P. Maguire	Bunyip	4.9.14	R.G.
954/4	Premier Again	H. Jelitz	Hamilton	18.8.14	R.G.
891/4	Premier Glenorchy	M. J. Caffey	City Horse Bazaar	13.7.14	R.G.
900/4	Pride of Maroog	G. Oxley, Junr.	Bendigo	23.7.14	R.N.J.
925/4	Pride of Scotland	H. C. Thomas	Longgatha	1.9.14	R.N.J.
988/4	Prize of Maroog	A. Bright	City Horse Bazaar	14.7.14	R.N.J.
908/4	Prince Albert	D. Keady	Trafalgar	5.9.14	R.N.J.
998/4	Prince Aldie	Brock Bros.	Rutherford	6.8.14	R.G.
931/4	Prince Edward	D. King and Sons	Tatura	20.8.14	R.N.J.
964/4	Prince Imperial	Minchin Bros.	Ballan	10.9.14	R.J.T.
999/4	Prince of Millfield	A. R. Lister	Warracknabeal	7.8.14	G.H.
935/4	Prince of Nullan	J. Annison	Royal Show Grounds	21.9.14	R.N.J.
1006/4	Prince Royal	E. S. Wright	Colac	25.8.14	R.N.J.
978/4	Rhode's Champion	M. J. Caffey	Maryborough	27.8.14	R.J.T.
941/4	Rob Roy	G. Baillie	Glenroy Special	28.8.14	R.G.
949/4	Robert Arthur	Gillman Bros.	Sale	11.9.14	R.G.
882/4	Royal Connection	J. R. Mackenzie	Swan Hill	12.8.14	R.N.J.
904/4	Royal Navy	J. McIlwain	Colac	28.8.14	R.G.
943/4	Royal Ribbon	G. Pearce	Beulah	13.30.14	R.G.
987/4	Scotland's Bloom	J. Wylie	Shill	19.8.14	G.H.
1010/4	Scottish Head	F. J. Erhardt	Gisborne Special	7.9.14	R.J.T.
961/4	Scotty Chief	A. Rintoul	Lang Lang	11.9.14	R.N.J.
990/4	Shaner	O. Syme	Rainbow	25.8.14	R.J.T.
1002/4	Souter Jock	P. Le Roux	Jeparit	21.8.14	G.H.
972/4	Stockman	C. H. Perkins	Royal Show Grounds	20.7.14	R.N.J.
969/4	Sir Baron	C. J. Nuske	City Horse Bazaar	13.7.14	R.G.
914/4	Sir Hector	T. Wallbridge	Rushworth	14.8.14	R.G.
901/4	Sir Lawrence	E. W. Fowler	Jeparit	21.8.14	G.H.
937/4	Sir Mac	A. J. Donaldson	Colac	25.8.14	R.J.T.
970/4	Topgallant	F. E. McIntosh	Hamilton	1.8.14	R.G.
973/4	The Crown	S. Atkinson	Ballan	25.8.14	R.J.T.
955/4	The Leader	H. H. Laidlaw	Hamilton	1.8.14	R.G.
922/4	The Shepherd	W. J. Brewer	New Zealand Exam.	21.5.14	R.G.
903/4	Waipa	Mitchell and O'Brien	City Horse Bazaar	10.7.14	R.G.
947/4	Young Heroi	A. R. Douglas	Kerang	13.8.14	R.N.J.
959/4	Young True Blue	B. J. Arthur	Kaniva	18.8.14	G.H.

## THOROUGHBRED.

1005/4	Malbrook	...	J. Widdis	...	Royal Show Grounds	21.9.14	R.J.T.
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## LIGHT HORSES.

932/4	Aristocrat	...	H. Jelitz	...	Hamilton	18.8.14	R.G.
985/4	Barwon Wilkes	Wm. Cope	Colac	...	Colac	28.8.14	R.G.
938/4	Billie Wilkes	G. A. Crozier	Shepparton	...	Shepparton	13.8.14	R.G.
982/4	Captain J.	J. S. Tait	Warrnambool	...	Warrnambool	27.8.14	R.G.

LIST OF TERMINABLE CERTIFIED STALLIONS—*continued.*

Cert. No.	Name of Horse.	Owner.	Parade.	Date of Examination.	Officer.
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LIGHT HORSES—*continued.*

1003/4	Conceit	W. H. Carpenter	Yarram	10. 9. 14	R.N.J.
905/4	Dandy Star	Mrs. J. Brown	City Horse Bazaar	13. 7. 14	R.N.J.
915/4	Derby Chimes	H. Saunders	Wodonga Special	23. 7. 14	R.G.
926/4	Emulator's Pride	W. MacArthur	Verang	24. 8. 14	R.G.
930/4	Harvest Again	W. Wilson	Selwood	5. 8. 14	R.N.J.
997/4	Honest Wilks	P. English	Warragul	11. 8. 14	R.N.J.
944/4	Hymn	W. McKiekin	Kerang	13. 8. 14	R.N.J.
945/4	J. W. White	J. Scott	Kerang	13. 8. 14	R.N.J.
916/4	Martin Wilks	H. Saunders	Wodonga Special	23. 7. 14	R.G.
942/4	Match It	R. J. Wakeman and Sons	Pyramid	10. 8. 14	R.N.J.
887/4	Obligation	J. McComman	Horsesham	30. 6. 14	R.N.J.
889/4	Osterley B.	D. Rowe	Camperdown	26. 8. 14	R.G.
946/4	Ribbonlead	R. Smith	Kerang	13. 8. 14	R.N.J.
—	Sian	R. Hunter	Elmore	14. 8. 14	R.N.J.
—	What's Wanted	L. M. Reynoldson, junr.	Numurkah	8. 7. 14	R.N.J.
894	Zolock O	D. McLeod	Numurkah	8. 7. 14	R.N.J.

## PONIES.

627/4	Dandy Hero	E. Brock	Sea Lake	30. 7. 14	R.G.
1088/4	Dandy Nut	E. E. Small	Agricultural Offices	3. 10. 14	R.J.T.
652/4	Gibbie	W. Sanders	Kaniva	18. 8. 14	G.H.
975/4	Grainmyr	E. Whiting	Alexandria	27. 8. 14	R.J.T.
912/4	King Tony	J. Kendall	Royal Show Grounds	20. 7. 14	R.N.J.
348/4	Kiwi	J. Moran	Balmoral	13. 8. 14	G.H.
884/4	Leo	J. Brown	Agricultural Offices	27. 6. 14	G.H.
1001/4	Little Willie Wilks	W. E. Gibson	Mirboo North	31. 8. 14	R.G.
934/4	Mountain Palm	F. W. Schickering	Warracknaball	7. 8. 14	G.H.
—	Roman Fireaway	H. Osman	South Australian Exam	28. 10. 14	R.J.T.
689/4	Silverlight	R. T. Jarvis	Corryong	2. 9. 14	R.J.T.
1900/4	Stylish Lad	E. J. Watson	Warrnambool	19. 8. 14	R.J.T.
956/4	The Baron	H. B. Jackson	Civerton	19. 8. 14	R.G.
926/4	Welsman	W. E. Rosling	Agricultural Offices	23. 7. 14	R.N.J.
983/4	Young Gracey	D. W. Battarbee	Warrnambool	27. 8. 14	R.G.

## (Three-year-old Certificates expiring 30th June, 1915.)

## DRAUGHTS.

1449/3	Abbot McArthur	J. Grant	New Zealand Exam.	22. 6. 14	..
1511/3	Abbotford Chief	J. R. Henry	New Zealand Exam.	24. 5. 14	..
1509/3	Abbotsford Colonel	J. R. Henry	New Zealand Exam.	24. 5. 14	..
1448/3	Abbot's Pride	J. Grant	New Zealand Exam.	22. 6. 14	..
1527/3	Adyce	R. Heywood	Kerang	13. 8. 14	R.N.J.
1436/3	Arama	J. R. McKenzie	Glenroy Special	11. 6. 14	R.G.
1482/3	Australian Oliver	G. Osley, junr.	City Horse Bazaar	13. 7. 14	R.G.
1506/3	Balmoral Chief	R. Goddes	New Zealand Exam.	29. 5. 14	..
1775/3	Baron Abbott	J. McNamara, senr.	City Horse Bazaar	10. 7. 14	R.N.J.
1503/3	Baron Allison	G. Stokes	New Zealand Exam.	29. 5. 14	..
1477/3	Baron Killibyde	Mitchell and O'Brien	City Horse Bazaar	10. 7. 14	R.N.J.
1447/3	Baron Linwood	Phillips Bros.	New Zealand Exam.	22. 6. 14	..
1487/3	Baron Milford	A. C. Petras	City Horse Bazaar	13. 7. 14	R.N.J.
1488/3	Baron Northcote	R. H. Grant	City Horse Bazaar	13. 7. 14	R.N.J.
1510/3	Baron Samson	J. Grant	New Zealand Exam.	22. 6. 14	..
1533/3	Baron Twist	E. and C. Ham	Rochester	18. 8. 14	R.N.J.
1525/3	Bon Bolt	R. Winterbottom	Pyramid	10. 8. 14	R.N.J.
1499/3	Binder	Sullivan Bros.	Royal Show Grounds	20. 7. 14	R.N.J.
1514/3	Burgowrie II	J. Mitchell	New Zealand Exam.	25. 6. 14	..
1491/3	Burn Boy	J. Patrick	Royal Show Grounds	20. 7. 14	R.N.J.
1553/3	Burnmore	A. S. Chirnside	Royal Show Grounds	25. 9. 14	R.J.T.
1476/3	Burly Boy	Mitchell and O'Brien	City Horse Bazaar	10. 7. 14	R.G.
1542/3	Caribie	M. Kennedy	Warrnambool	27. 8. 14	R.G.
1456/3	Castile Brae	W. E. Frost	Horsham	30. 6. 14	R.G.
1512/3	Cham McGregor	D. Dookie	New Zealand Exam.	13. 4. 14	..
1551/3	Cheer Light	Mitchell and O'Brien	Royal Show Grounds	21. 9. 14	R.G.
1557/3	Clement	O. Maroske	Horsham	30. 6. 14	R.N.J.
1522/3	Clydesdale Prince	P. J. Connellan	Watemon	7. 8. 14	R.N.J.

## LIST OF TERMINABLE CERTIFICATED STALLIONS—continued.

Cert. No.	Name of Horse.	Owner.	Parade.	Date of Examination.	Officer.
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## DRAUGHTS—continued.

1484/3	Colonel Young	H. W. O'Brien	City Horse Bazaar	13.7.14	R.G.
1489/3	Conquering Hero	H. T. Whitty	City Horse Bazaar	13.7.14	R.N.J.
1495/3	Dapper	J. Crane	Royal Show Grounds	20.7.14	R.N.J.
1549/3	Darnley	W. Gooding	Trafalgar	5.9.14	R.N.J.
1498/3	Deafie	J. T. Smith	Royal Show Grounds	13.7.14	R.N.J.
1532/3	Duke of Dahlen	A. C. Jorgensen	Indiopolis	20.7.14	R.N.J.
1524/3	Dunvegan	L. McLeod	Tatara	20.8.14	G.H.
1518/3	Eastern Star	D. and G. McDonald	Minxip	6.8.14	R.N.J.
1497/3	Edinbro'	J. H. Hall	Royal Show Grounds	20.7.14	R.N.J.
1458/3	Elberfield	O. Maroche	Horsham	30.6.14	R.G.
1472/3	Federal Duke	E. Williamson	Nimurkah	8.7.14	R.N.J.
1459/3	Federal Knight	J. H. Hall	Horsham	30.6.14	R.N.J.
1454/3	Federal Sandy	T. Leavey	Cobram	11.8.14	R.G.
1529/3	Federal's Fancy	A. Hale	Geelong	13.8.14	N.McD.
1478/3	Fieldmorn Grand	E. Rudderock	City Horse Bazaar	10.7.14	R.N.J.
1523/3	Forest King	J. Walder and Sons	Watchem	7.8.14	R.N.J.
1468/3	Frog Puddles	T. Lawson	Horsham	1.7.14	R.N.J.
1460/3	Hampstead Laddie	R. A. Stoughton	Horsham	30.6.14	R.G.
1470/3	Hercules	C. R. Roper	City Horse Bazaar	10.7.14	R.N.J.
1510/3	Imperial Newton	H. H. Mills	Warrnambool	7.8.14	G.H.
1453/3	Invermark	E. H. Nolte	Hastings	12.8.14	R.G.
1498/3	Johnnie Walker	K. C. Harper	Royal Show Grounds	20.7.14	R.N.J.
1507/3	Keith Hall	E. M. Walter	New Zealand Exam.	24.5.14	...
1479/3	King of the Moas	G. Allardice	City Horse Bazaar	10.7.14	R.G.
1461/3	Lorraine	O. Maroche	Horsham	30.6.14	R.N.J.
1523/3	Lyndale	A. McKinnon	Charlton	23.7.14	R.G.
1462/3	Lord Clivedon	T. E. Parry	Horsham	30.6.14	R.N.J.
1480/3	Lord Everest	Mitchell and O'Brien	City Horse Bazaar	10.7.14	R.G.
1554/3	Lord Fairbairn	A. B. Anders	Korumburra	9.9.14	R.N.J.
1516/3	Lord Liverpool	J. R. Henry	New Zealand Exam.	22.6.14	...
1465/3	Master Jack	W. T. Bodey	Horsham	30.6.14	R.N.J.
1446/3	Master Junket	A. Chrystal	New Zealand Exam.	23.6.14	...
1520/3	Masterful Duke	E. M. Walter	New Zealand Exam.	29.5.14	...
1559/3	New Broom	R. J. Walsh	Port Fairy	8.8.14	R.G.
1492/3	Newton Prince	H. C. Young	Agricultural Offices	18.7.14	G.H.
1470/3	Obstob Again	G. Allan	Horsham	1.8.14	R.N.J.
1463/3	Patriotic	G. Greenaway	Horsham	30.6.14	R.N.J.
1502/3	Plunket's Pride	J. Holding	New Zealand Exam.	22.6.14	...
1513/3	Premier's Fancy	J. Mitchell	New Zealand Exam.	20.6.14	...
1481/3	Premier Thomas	W. Macknight	City Horse Bazaar	10.7.14	R.N.J.
1485/3	Purple Heather	J. Stokes	City Horse Bazaar	13.7.14	R.G.
1508/3	Ronaldson	G. Allardice	New Zealand Exam.	24.5.14	...
1473/3	Royal Chief	H. Rolls	Nimurkah	8.7.14	R.N.J.
1466/3	Royal Kin	W. T. Bodey	Horsham	30.6.14	R.N.J.
1471/3	Royal Salute	J. Bodey and Sons	Horsham	1.7.14	R.N.J.
1543/3	Royal Sun	J. J. Gleeson	Warrnambool	27.8.14	R.G.
1442/3	Royal Winsome	J. P. Bellville	Watchem	7.8.14	R.N.J.
1473/3	Saxon Prince	T. Wearne	Nimurkah	8.7.14	R.N.J.
1438/3	Saxich Hawk	O. E. Bodey	Sunbury Special	23.5.14	R.G.
1527/3	Scottie	Hansen Bros.	New Zealand Exam.	13.4.14	R.N.J.
1566/3	Scottie	A. Robertson	Marchborough	5.7.14	R.N.J.
1541/3	Scottish Chief	J. Galloway	Beaufort Special	8.3.14	R.G.
1567/3	Scottish King	W. Lynch	City Horse Bazaar	10.7.14	R.N.J.
1482/3	Shepherd King	J. Erwin senr.	New Zealand Exam.	29.5.14	...
1504/3	Shepherd's Glory	J. B. Henry	Beaufort Special	13.10.14	R.G.
1564/3	Shepherd's Pride	F. Jende	New Zealand Exam.	24.5.14	...
1510/3	Silver King	J. B. Henry	Horsham	30.6.14	R.N.J.
1464/3	Starlight	Mitchell and O'Brien	Royal Show Grounds	20.7.14	R.N.J.
1499/3	St Peter	J. H. Hall	Royal Show Grounds	20.7.14	R.N.J.
1500/3	St Walter	J. R. Henry	Royal Show Grounds	20.7.14	R.N.J.
1526/3	Tam	J. T. Collins	Pyramid	10.8.14	R.G.
1455/3	Thorn Blend	J. Alexander	Shepparton	13.8.14	R.G.
1467/3	The Candidate	W. T. Bodey	Horsham	30.6.14	R.G.
1473/3	The Expert	F. Thonemann	Royal Show Grounds	20.7.14	R.N.J.
1488/3	The Farmer	Kennedy and Walters	City Horse Bazaar	13.7.14	R.G.
1469/3	The Gunner	Minchell and O'Brien	Horsham	30.6.14	R.G.
1505/3	Urgy Park Shepherd	B. Graham	New Zealand Exam.	29.5.14	...
1551/3	Woodstock	J. Graham	Ballan	11.8.14	R.G.T.
1517/3	Young Baron's Pride	J. McGrath	Yarrawonga	4.8.14	R.G.
1521/3	Young Lawrence	L. Forrester	Shepparton	13.8.14	R.G.
1569/3	Young McHolland	H. McKinley	Romsey	30.9.14	R.G.T.

LIST OF TERMINABLE CERTIFIED STALLIONS—*continued.*

Cert. No.	Name of Horse.	Owner.	Parade.	Date of Examination.	Officer.
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## LIGHT HORSES.

1451/3	Belmont Chimes	G. Greaves	Bendigo	23.7.14	R.N.J.
152/3	Blue Wilks	J. W. McNeill	Mirboo North	31.8.14	R.G.
153/3	Bonnie Palm	W. Pollock	Jeparit	21.8.14	G.H.
154/3	Brigham Bell	J. Powell	Port Fairy	21.8.14	R.G.
155/3	Corroboree King	F. B. Lithgow	Lilydale	7.9.14	R.N.J.
1556/3	Dandy Bells	G. H. Alford	Royal Show Grounds	10.9.14	R.J.T.
1520/3	Elect Wood	H. A. Fisher	Shepparton	13.8.14	R.G.
1557/3	Ethman	Wm. Benson	Royal Show Grounds	21.9.14	R.J.T.
1541/3	Federal Chimes	D. Rowan	Campertown	26.8.14	R.G.
1532/3	Garney Direct	G. A. Maguire	Bendigo Special	13.8.14	R.N.J.
1569/3	King Palm	Mr. Schneidler	Bendigo Special	13.10.14	R.G.
1536/3	Golden Palm	C. Altmann	Dimbobla	20.8.14	G.H.
1546/3	Marcus	N. Jones	Warrible	29.8.14	R.G.
1548/3	Scot's Spirit	H. S. Stanmore	Campertown	26.8.14	R.G.
1550/3	Sunny Voyage	J. M. Roche	Trafalgar	5.9.14	R.N.J.

## PONIES.

1547/3	Brigham IV	J. McGrath	Colac	28.8.14	R.G.
1528/3	Dandy Lion	P. W. Carr	Geelong	13.8.14	N.M.C.D.
1561/3	Dandy Wonder	P. W. Devlin	Geelong Special	29.9.14	R.G.
1545/3	Golden Locke	J. James	Colac	28.6.14	R.G.
1560/3	Happy Boy	W. J. Philp	Geelong Special	29.9.14	R.G.
1540/3	Harry Lauder	E. R. Elford	Penshurst	25.8.14	R.G.
1565/3	Naughtier	E. Boulton	Agricultural Offices	17.10.14	R.J.T.
1558/3	Romance	Lagran Bros.	Royal Show Grounds	21.9.14	R.J.T.
1530/3	Royal George III	Bell Bros.	Geelong	13.8.14	N.M.C.D.
1491/3	Welsh Glyn	W. E. Craig	City Horse Bazaar	13.7.14	R.N.J.

## (Two-year-old Certificates expiring 30th June, 1915.)

## DRAUGHTS.

255/2	Aristocrat	E. A. Dahlenburg	Horsham	30.6.14	R.N.J.
231/2	Champion	Jno. Amonson	Horsham	30.6.14	R.G.
227/2	Hugo	W. H. Thomas	Horsham	30.6.14	R.G.
228/2	Ian Walton	F. W. Sallman	Horsham	30.6.14	R.G.
214/2	Loch Gowle	W. T. Boddy	Horsham	30.6.14	R.N.J.
218/2	Newton Lad	E. Robinson	Warracknabeal	7.8.14	G.H.
232/2	Royal Signal	F. C. Thomas	Horsham	30.6.14	R.G.
217/2	Royal Sovereign	T. Thornton	Melbourne Special	1.8.14	R.G.
241/2	The Liberal	J. Graham	Ballan	11.9.14	R.J.T.
229/2	Walderner	F. W. Sallman	Horsham	30.6.14	R.N.J.
240/2	Young Keimscott	H. Thompson	Kaniva	18.8.14	G.H.

## LIGHT HORSES.

239/2	Fleetfoot	P. Fisher	Jeparit	21.8.14	G.H.
231/2	Gration Again	P. Greenaway	Horsham	30.6.14	R.N.J.
243/2	Merrinu	G. M. Vallence	Royal Show Grounds	19.9.14	R.J.T.
242/2	Muskaloona	C. Barlow	Varram	10.9.14	R.N.J.

## PONY.

236/2	Dandy Cland	E. W. Neck	Bendigo	23.7.14	R.N.J.
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## BEE-KEEPING IN VICTORIA.

By F. R. Beuhne, Government Apiculturist.

(Continued from page 145).

## XXVI.—THE HONEY FLORA OF VICTORIA—continued.

THE BLACK Box (*Eucalyptus bicolor*).

(Fig. 20.)

This is a dry-country eucalypt, it is found in the West and North-West of Victoria, between Swan Hill and Mildura, extending southward across the Adelaide-Melbourne railway line and to the western base of the Grampians, chiefly on the black soil of Mallee swamps. It is known by many different names, such as swamp box, dwarf-scrub, river or drooping box.

This tree may grow to a height of 120 feet, but in some situations little more than a large shrub. As a tree it is of a spreading and drooping habit with a general resemblance to yellow box. The ash-grey or blackish bark continues, however, on to the small branches. The wood is reddish, with very little sapwood, hard interlocked and very durable. It is to some extent used for fencing where straighter timber is absent.

The leaves are long narrow lance-shaped, not very thick, the veins fine, not close, the marginal vein at a distance from the edge of the leaf. The flowers are small, white, with sometimes pinkish or even crimson blossoms on the same tree, hence the botanical name "bicolor" (two-coloured). The umbels or clusters carry three to eight flowers in sprays at the end of branchlets; the buds are egg-shaped with rounded tops; the fruit is small cup-shaped, contracted at the top.

The black box blossoms in January and February, lasting about six weeks. Like yellow box, it blossoms every second year, the buds appear about eleven months before. The honey of this tree is of good quality, often very dense, but not so pale as that of yellow box; it is, however, doubtful whether it is ever obtained free from admixtures of honey from other sources. It yields pollen to bees, and is one of the best bee forage trees in the districts in which it grows.

THE BLUE GUM (*Eucalyptus globulus*).

(Fig. 21.)

The blue gum is one of the best-known eucalypts, extensively planted not alone in Australia, but also in America, North and South Africa, India, and Southern Europe. In a natural state it is found in valleys as well as on ridges and mountain slopes, chiefly in humid regions of the southern and eastern portions of Victoria, from the vicinity of Cape Otway to Wilson's Promontory, northward to the Murray and Tumut Rivers in the southern part of New South Wales, on the islands in Bass Straits, and in many other places, but particularly the southern parts of Tasmania.

The blue gum is a tall tree of upright growth attaining under favorable conditions a height of over 200 feet and a stem diameter of 10 feet. The timber is of a rather pale colour, hard, heavy, strong, and durable; it is more twisted than that of messmate and peppermint, but not so interlocked as that of red gum and of yellow and other box trees. In house building, it is one of the best timbers for joists, studs,



Fig. 20.—The Black Box (*Eucalyptus bicolor*, A. Cunn.)

rafters, &c. It is very extensively used by carriage-builders and manufacturers of implements, as well as for telegraph poles, jetty and bridge work.

The leaves are scattered on the robust four-edged branchlets, lance or sickle shaped, thick, and of equal colour and somewhat shining on both sides; the veins of the leaves are moderately spreading and slightly

prominent, the marginal vein removed from the edge. The flower buds, which are warty, tinged with a bluish white bloom; they appear generally singly, less frequently two or three together at the shoulders of leaves. The lid of the bud is depressed hemispherically, and by its peculiar shape and warty appearance easily distinguishes the blue gum from all other Victorian eucalypts. The fruit is large and three to five rarely six, celled.

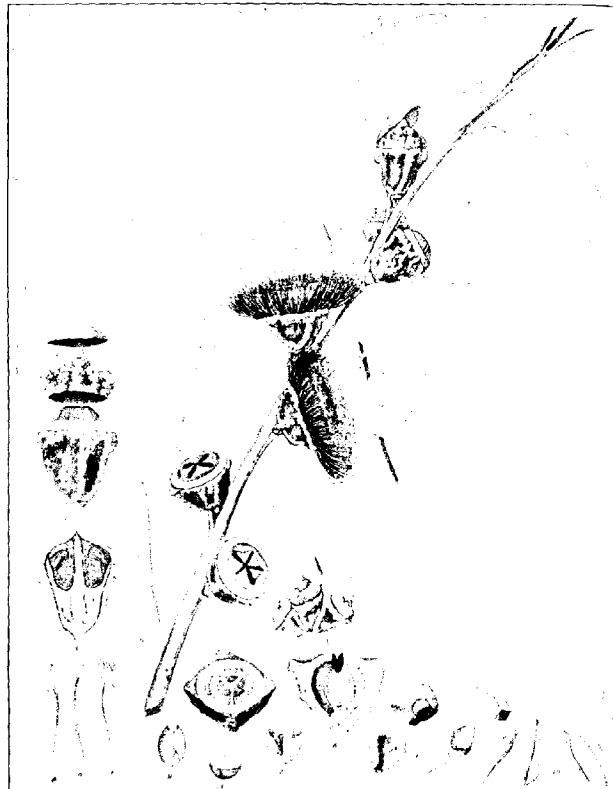


Fig. 21.—The Blue Gum (*Eucalyptus globulus* Labillardière).

The seedling plants and suckers are of a waxy powdery bluish whiteness, have sharply four-cornered stems, and opposite stalkless heart-shaped or oval heart-shaped leaves.

The blue gum usually blossoms during the winter months, and on this account does not rank high as a honey yielder, the colonies of bees

being at this time in a semi-dormant state; it is, however, worked on by bees for both nectar and pollen, but as no surplus honey can be stored during cold weather, little is known as to the character and flavour of the honey except that it is rather dark in colour.



Fig. 22.—The Sugar Gum (*Eucalyptus cladocalyx* syn. *E. corynocalyx*).

THE SUGAR GUM (*Eucalyptus cladocalyx*). *Synonym E. corynocalyx.*

(Fig. 22.)

This tree is a native of South Australia, and the lower Wimmera, in Victoria. It reaches a height of 120 feet, the trunk attaining a final diameter of 5 or even 6 feet. The bark is smooth; the wood durable and used for fence posts, railway sleepers, and other purposes.

The leaves are scattered on the branchlets broad-lance or long-lance shaped, narrowing only very gradually towards the point; there is an oily lustre on both sides of the leaf, but the underside is somewhat paler. The veins are numerous, moderately spreading, the marginal vein removed from the edge of the leaf. The clusters of flowers are on the side of the branchlets, or at the shoulders, but frequently below the leaves on round stalks carrying from four to sixteen flowers. The buds are bell-shaped cylindric, with a blunt or slightly pointed lid; the fruit is urn-shaped, streaked lengthways, and three-celled.

The sugar gum is now extensively planted in parks and public gardens, being much more suitable for this purpose in dry warm localities than the blue gum, which under these conditions dies back after it has attained a certain age.

As a nectar-yielding tree the sugar gum is one of the best, its value as such has so far not been sufficiently appreciated by apiarists, because only in isolated instances is it found in sufficient numbers to produce that condition of the hives known as a honeyflow. The buds appear about thirteen months before the flowering period which occurs in January and February. It blossoms every year for a number of years and then misses one season. The blossom is very fragrant, secretes nectar freely, and lasts for a considerable time in comparison with many other eucalypts, attracting honey-eating birds, bees, and insects all day. The honey is of excellent flavour and aroma, of pale straw colour, and good density. As to pollen gathered by bees from this source the observations and opinions of apiarists differ, probably in consequence of local conditions, and so far no definite information as to the value of the sugar gum as a pollen-producer is available.

(*To be continued.*)

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#### A NEW TYPE OF ARTIFICIAL FERTILIZER.

In a paper read before the Society of Arts of London by Prof. W. B. Bottomly, a new type of fertilizer was described, which threatens serious competition with the products of the electric furnace.

After giving an account of various previous attempts to utilize for fertilizing purposes the power of certain bacteria found on the roots of some plants to fix atmospheric nitrogen, and showing how these attempts had been successful, Prof. Bottomly described experimental work carried on at the botanical laboratory of King's College, claiming that it had been attended with complete success. It was found that suitably treated peat formed a most excellent medium for the growth of the bacterium, and soils manured with this peat have shown a marked enhancement of their fertility. Before inoculating the peat with the bacterium in question the raw peat has to undergo a preliminary treatment by another bacterium, which was found to have the power of converting natural peat into a humated neutral medium. Attempts to achieve the same end by neutralizing the humic acid of the peat by alkalies resulted in complete failure.

The peat, after inoculation with the special bacterium, is kept at constant temperature for a week or ten days, after which it is sterilized by the action of live steam.

It is then inoculated afresh with a mixture of *azotobacter chronococcus* and *bacillus radiacola*, and after a few days incubation at 26 deg. C. is ready for use. The following table shows the effect of the treatment as proved by analysis.

Analyses of a garden soil and other natural manures are also given for comparison.

Material Analysed.	Percentage Soluble Humate.	Percentage Soluble Nitrogen.	Percentage Total Nitrogen.
Raw peat ..	.028	.214	1.267
Bacterized peat ..	15.194	2.694	4.310
Garden soil ..	.012	.026	.427
Fresh soluble manure ..	.433	.291	2.533
Well-rotted stable manure ..	1.46	.439	2.848
One-year-old peat moss litter ..	1.05	.826	2.587

An important point is that the *azotobacter* continue to flourish after the peat has been added as manure to the soil to be fertilized, thus fixing further nitrogen.

In a series of comparative experiments made on an exhausted soil, the new manure showed the following percentage of advantages over its competitors:—

Crop.	Inoculated peat.	Artificials.	Farm Manure.
Potatoes ..	123	75	41
Turnips ..	100	47	26
Beet ..	281	54	43
Onions ..	110	110	46
Carrots ..	260	20	28

With fertile soils, the addition of a very little of the treated peat is stated to give a very large increase in the rate of growth. This is believed to be due to the presence in the peat of accessory food bodies, for which a special search is now being made.

—*The Journal of Industrial and Engineering Chemistry*, June, 1914.

### CALCIUM CYANAMIDE.

Interesting data in connexion with calcium cyanamide, one of the new nitrogenous fertilizers, is given by E. J. Pranke, in the *Chemical News*, 17th July, 1914. The following are some extracts:—

“Perhaps the most important question that can be asked about cyanamide is: What is its fertilizing value? Does it give to the farmer year after year a consistent profit on his investment that compares favorably with the profit on an equal expenditure for some other material?”

"One way to answer the question is to fertilize one-third of a field in the ordinary way with a properly compounded commercial cyanamide mixture, fertilize another one-third with some other standard mixture of equivalent analysis, and omit fertilizers from the remaining one-third.

The answer given by such an experiment usually is that cyanamide may be profitably substituted for an equivalent amount of nitrogen in other standard forms.

"The farmer's use of fertilizers in general is guided solely by the profits derived therefrom. He is continually seeking to learn in what way and in what amounts he shall apply his fertilizers so as to derive a maximum profit. The broad result of this general searching for the best ways is the formation of certain standards of fertilizer practice. These standards are in actual operation on the farms where the most money is being made."

The author summarizes as follows:—

- (1) The cost of food products in the United States has increased about twice as fast as the cost of other commodities, and about twice as fast as the general cost of living throughout the world. This tendency can be offset by an increased crop production, which will lower the price of food products, and hence the cost of living. Fertilizers are the most important single factor in increasing the crop production.
- (2) Nitrogen is the most expensive, and, agriculturally, most necessary element in commercial fertilizers. A general reduction in the cost of the latter must come through increased production of nitrogen at lower cost. The cyanamide process is probably the cheapest known source of fertilizer nitrogen.
- (3) The rapid successful development of the economically important cyanamide industry has been full of difficulties, practically all of which have been overcome or minimized by paying attention to the quantitative factors involved.
- (4) The greatest common error in the experimental testing of cyanamide has been in the use of excessive quantities. When used in normal agricultural quantities the results are entirely satisfactory.
- (5) All difficulties from the farmer's stand-point are removed by the complete reaction of the cyanamide with acid phosphate in commercial mixtures. Such mixtures consume practically all of the American output of cyanamide.
- (6) Cyanamide has several special advantages as an ingredient in mixed fertilizers.

In the manufacture of calcium cyanamide the nitrogen is obtained from the air by a process of distillation, after which it is caused to combine electrically with calcium carbide at a very high temperature. The approximate analysis would be—

Nitrogen—18 per cent.  
Lime—50-60 per cent.

The fertilizer is known generally as nitrolim. Very little, if any, has been imported into Victoria. An agency exists in Melbourne, Sydney, Perth, and Fremantle.

## THE WALNUT.

(Continued from page 248.)

C. F. Cole, Orchard Supervisor.

## HARVESTING—continued.

F. Peneveyre, in *Le Noyer et sa Culture*, writes as follows:—  
New mode of harvesting (knocking down) nuts. (Plate 29.)

Under this heading, M. Husard-Duplessis writes:—"We think it well to here make known a new method for harvesting nuts, invented



Fig. 29.—Harvesting Walnuts.

and proposed by M. Moutant, who describes it in these terms:—"The accompanying illustration shows the most usual form of tree when in full bearing. Towards the summit of the tree I fixed, by two rope bonds, a wooden pole about 16 feet long by 3 inches average thickness. This pole, to the upper end of which a long rope is tied, may be compared to a long whip, temporarily fixed (by the handle) to the tree,

the lash of which can be worked up and down over the foliage by a man walking round the tree. The action of the rope knocks down the nuts from the branches, owing to the circular motion communicated to the rope by the operator, who is able to work safely and to see what he is doing." The pole and hook method of shaking down the nuts is the most practicable way in vogue at present in Victoria. Whichever method is adopted, the nuts should not be allowed to remain lying upon the ground for any length of time, as there is a risk of the shells becoming discoloured. The nuts should be gathered up and placed in sacks (corn) ready for washing, so as to remove any dirt, &c., adhering to the shell. The sooner they are washed after picking up, the easier they will be to clean.

#### WASHING.

Washing the nuts produced by any one grower in Victoria may be performed and carried out by using tubs or other suitable vessels. But where large quantities have to be handled, other and more up-to-date methods should be adopted. Nuts that have been washed and have a clean attractive appearance are of greater market value than those having a stained and dirty appearance.

The following is an extract from Bulletin No. 231, United States Department of Agriculture, dealing with nut-washing upon a large scale, as practised in California:—"After being picked up and placed in sacks, the nuts are carried to some convenient point and washed, in order to remove dirt, portions of the husk, &c., which may be sticking to them. Such washing is done in large cylindrical drums made of coarse wire netting, in which the nuts are slowly revolved under a stream of water, grinding against each other and against the wires forming the sides of the drum. In this way all the nuts which have fallen normally from the husk, and those in which most of the husk has been removed by hand during picking, are very thoroughly cleaned. For removing the more tightly-attached husks of the sun-burned nuts and 'stick-tights,' various devices are used, consisting in a general way of cylinders with sharp projections from the sides, by means of which a considerable proportion of these nuts are cleaned up fairly well. Those still having portion of the husk adhering to the shell are gone over again by hand, removing the husks which can be got off without too much effort—there always remains a greater or less proportion of these 'stick-tights,' which must be picked out and discarded."

#### DRYING.

"After washing and other cleaning operations are over, the nuts, in a dripping wet condition, are placed in large trays having bottoms composed of slats (strips of wood) spread about  $\frac{1}{2}$  inch apart, so that the nuts may drain. These trays are commonly about 6 x 3 feet by 6 inches deep, thus holding several layers of nuts. The side boards are allowed to project at the ends, and are shaped into handles for lifting the trays. In the trays the nuts are stirred, spread out in the open, or stacked up and covered, according to the weather, with the object of drying them as rapidly as possible without too great exposure, either to the sun or to moisture. If over exposure to the sun, they

are liable to split open, especially the poorly-sealed varieties. If left too long in a moist condition, they may become mouldy and discoloured.

"The larger and more progressive walnut-growers in California use artificial heat and enclosed buildings for drying their walnuts, rather than depend upon the uncertainties of the weather. In this way the nuts can be dried uniformly and quickly, with no exposure to rain or hot sunshine."

#### BLEACHING.

The bleaching of the nuts after they have been washed and dried, so as to give the shells a bright light-coloured attractive appearance is widely adopted in California, but is not practised, to the writer's knowledge, in Victoria. Various methods are in vogue; the oldest method of exposing the nuts to sulphur fumes being discarded owing to the fumes penetrating the kernels and having a decided effect upon their flavour.

Dipping the nuts into a solution of chloride of lime and sal soda to which sulphuric acid is added, causing the liberation of chlorine gas, which brings about the bleaching action, was generally adopted by walnut-growers in California. Formula:—6 lbs. of chloride of lime, 12 lbs. sal. soda, 50 gallons of water. Dissolve lime in about 4 gallons of water, stirring till dissolved. Dissolve the sal. soda in about 4 gallons of water. Add lime solution to soda solution, and stir well; let the carbonate of lime settle to the bottom, draw off the clear liquid, and add water to make a total of 50 gallons. Put the nuts in a large dipping box or lath crate, immerse in the fluid, and then add  $1\frac{1}{4}$  lbs. of 50 per cent. sulphuric acid, and agitate by raising and lowering the dipping box. The bleach should be reached in five to ten seconds, and the nuts are then washed in clear water and put out to dry. The same liquor can be used with new batches of nuts so long as the proper effect is produced, and small additions of acid will prolong the efficiency of the liquor.

Owing to litigation over the rights to use this process, which was covered by a patent, Professor Stabler, of the University of Southern California, Los Angeles, devised a new electric process, consisting essentially in passing an electric current through a 4 per cent. solution of common salt by means of electrodes immersed in the liquid. In this process chlorine is set free, and becomes available for bleaching, the nuts being immersed directly in the liquid through which the electric current passed. This electrical method of bleaching is still in process of development and improvement, and is considered by far the most satisfactory method yet devised. After passing through clear water and dried, the nuts are placed in the grader.

(*To be continued.*)



## VINE PRUNINGS AS FODDER.

*F. de Castella, Government Viticulturist.*

The present disastrous scarcity of fodder gives a very real interest to any substance capable of being utilized as food for stock. In the canes removed when the vines are pruned in early winter we have a by-product of the viticultural industry which, though usually burnt off as rubbish, possesses, nevertheless, sufficient food value to be capable of saving from starvation, in a season like this, many thousand head of stock.

Some notes on vine prunings as fodder were contributed by the writer to this Journal in January, 1909,\* quoting analyses which showed that silaged vine prunings did not compare unfavorably with meadow hay. Within the last seven years this rather novel fodder has been quite extensively used in France, especially in seasons of fodder shortage, being sometimes fed to stock after conversion into silage, but sometimes, also, direct from the shredder and crusher. In *Progrès Agricole* of 19th June, 1910, the late J. Leenhardt-Pomier described how he used the freshly cut and crushed canes not alone, but mixed with other fodders, the cost working out at almost exactly 1s. 3d. per horse per day, on the following basis (the quantities mentioned are for eleven horses for one day):—

	Frances. f. s. d.
120 kilos. (264 lbs.) vine canes @ 0.59 fr. per 100 kilos. (4s. per ton) ..	0.60 ..
25 kilos. bran @ 16 fr. per 100 kilos. (26 8s. per ton) ..	4 0 ..
100 litres (22 galls.) water (costing 1d.) ..	0.10 ..
For 245 kilos. (539 lbs.) .. .. ..	4.70 ..
42 kilos. (92 1/2 lbs.) oats @ 20 fr. per 100 kilos. (3s per ton) ..	8.40 ..
27 kilos. (59 1/2 lbs.) lucerne @ 9 fr. per 100 kilos. (£3 12s. per tons) ..	2.43 ..
	— — —
	Say .. 15.53 0 12 5
To this is added—	
Petrol for engine .. .. .. ..	0.50 ..
Wages (crusher and stable) .. .. .. ..	1.00 ..
	— — —
	17.03 0 13 7 1/2

"This diet, which is used for six months each year, has never presented any drawbacks; my horses kept in excellent condition during and after such feeding."

Several other articles (French) might be quoted, perusal of which makes one wonder that the totality of French vine prunings are not regularly used up as fodder. The explanation is to be found in their rather low digestibility, as is shown in an article by M. J. Fabre, lecturer at the Montpellier School, which appeared in *Le Progrès Agricole* of 5th January, 1913. In this, after quoting several analyses, he gives the results of experiments carried out by him in the zoo-technical laboratory of the Montpellier School, in order to determine the coefficient of digestibility of this fodder.

\* Information mainly derived from an article by M. Paul Héran in *Progrès Agricole* of Montpellier (France), 20th September, 1908.

M. Fabre deals mainly with silage made from canes and leaves, the vines being pruned before the latter have fallen. Such a course, though not uncommon in bad years in France, is not to be recommended, especially if the vines are pruned too early, since it interferes with the normal accumulation in the wood of the vine, of reserve substances assimilated by the leaves, a process which continues so long as they retain their green colour. The objection is the same as that against the early feeding off of the foliage, too often practised in our vineyards. Once the leaves have changed colour, however, their removal does not injure the vine. The following table shows that even as late as 15th November (15th May here), though they had lost some nitrogen, the other food substances had not varied much:—

TABLE A.  
PERCENTAGE COMPOSITION OF FRESH VINE LEAVES (ARAMON).

Date of Gathering.	Water.	Nitrogenous Matter.			Fats.	Nitrogen Free Extract.	Cellulose.	Mineral Substances.
		Total.	Proteid.	Non-Proteid.				
	%	%	%	%	%	%	%	%
1914—								
9th October ..	65.72	3.793	3.456	0.337	3.16	18.971	4.414	3.942
27th October ..	64.67	3.018	2.893	0.125	3.51	18.824	5.502	4.486
3rd November ..	66.63	2.737	2.550	0.187	3.89	16.326	4.739	3.896
15th November ..	67.66	2.200	..	..	4.20	17.445	5.168	4.327

"Vine leaves thus constitute a fodder which is rich in water and poor in protein. . . . It would require about 250 lbs. of fresh leaves to equal 100 lbs. of hay. . . . According to Muntz, an acre of vines in Southern France yields from 2,250 to 8,100 lbs. In our experiments the yield of fresh leaves was from 3,600 to 5,400 lbs. per acre." It is well to explain that the vines in the south of France are more closely planted than in Victoria—usually 5 feet by 5 feet.

Analyses of fresh vine prunings are given, as follows:—

TABLE B.  
PERCENTAGE COMPOSITION OF FRESH VINE CANES (ARAMON).

Date of Removal.	Water.	Nitrogenous Matter.			Fats.	Nitrogen Free Extract.	Cellulose.	Mineral Substances.
		Total.	Proteid.	Non-Proteid.				
	%	%	%	%	%	%	%	%
1914—								
9th October ..	51.34	1.881	1.525	0.356	0.924	25.193	18.782	1.880
27th October ..	50.50	2.206	2.450	0.756	0.564	26.650	18.114	1.950
3rd November ..	50.13	2.418	1.640	0.778	0.780	24.825	19.845	1.994
15th November ..	54.86	1.925	..	..	0.722	21.521	18.804	2.166

"The canes contain less water than the leaves . . . but more cellulose . . . hence their digestibility must certainly be less. The date of removal does not seem to have appreciably influenced their composition." The yield per acre varied from 1,530 to 3,600 lbs. per acre.

Analyses of leaves and canes mixed, both before and after ensilage, are given, as follows:—

TABLE C.  
PERCENTAGE OF COMPOSITION OF VINE PRUNINGS WITH LEAVES.

Nutritive Principles.	College Silage.		Mr. Richter's Silage.	
	Before Ensilage (27th October).	After Ensilage (16th November).	Before Ensilage (10th November).	After Ensilage (15th January).
Dry Matter ..	39.691	44.750	40.689	42.200
Nitrogenous Substances	2.612	3.125	2.249	2.648
Total ..	2.372	2.862	1.890	2.191
Proteid ..	0.240	0.263	0.359	0.457
Non-proteid ..	5.158	5.862	2.398	2.852
Fat ..	17.990	19.940	21.949	19.906
Nitrogen Free Extract ..	7.481	8.502	10.020	11.925
Cellulose ..	6.450	7.321	4.073	4.869
Mineral Substances ..				

Experiments to determine digestibility were conducted on a horse and on a sheep. The horse weighed 660 lbs., and was exclusively fed on vine silage (canes and leaves) from 8th January. After a preparatory period lasting until 15th January, a record was kept of the weight of food consumed daily, and samples of it were analyzed regularly. During the same period the solid excreta of the horse were likewise weighed and analyzed. These investigations continued from 15th to 20th January (inclusive); they rendered possible the calculation of the quantity of different substances digested and the determination of the coefficient of digestibility of the food in question. M. Fabre gives the result, as follows:—

CREDIT AND DEBIT BALANCE.

—	Dry matter.	Nitrogenous matter.	Fats.	Nitrogen free extract.	Cellulose.
Substances consumed ..	15.387	0.962	1.035	7.244	4.336
Substances recovered in faeces ..	9.454	0.761	0.824	3.091	3.323
Difference—substances digested ..	5.933	0.201	0.211	4.153	1.013
Co-efficient of digestibility (ratio of substances digested to sub- stances consumed) ..	0.385	0.208	0.211	0.573	0.233

These coefficients are compared with those for straw and hay of medium quality, as follows (expressed in percentage):—

		Vine silage.	Straw.	Hay.
Protein .. .. .. ..		20.8	19	57
Fat .. .. .. ..		21.1	21	24
Nitrogen free extract .. .. .. ..		57.3	32	55
Cellulose .. .. .. ..		23.3	27	36
Dry matter .. .. .. ..		38.5	30	48

“Thus, the protein of vine silage is not more digestible than that contained in straw. Likewise for fat and cellulose. On the other hand, the nitrogen free extract coefficient is as high as for hay. It may be added that the horse could not be kept on the above ration. It lost 22 lbs. in weight during the experiment.”

With the sheep the results were very similar, the differences being trifling, except in the case of fat, the coefficient for which was 0.117, as compared with 0.211 in the experiment on the horse.

Vine silage seems to have proved more suitable to the sheep than to the horse, since the former “did not vary in weight, owing, it would seem, to its having eaten proportionately more of the fodder than the horse.”

Applying the digestibility coefficient to the analyses of vine silage given above, M. Fabre finds that 100 kilos of this fodder would be equivalent in food value to 43 kilos of hay or 83 kilos of straw (wheaten). He concludes as follows:—“According to our experiments, the fodder value of vine silage (canes and leaves) is distinctly inferior to that of hay. It is scarcely equal, in fact, to that of straw. The data which precede will enable one to calculate the profit realizable from the use of vine canes as an animal ration. Any economy which may be effected will thus depend on the cost price of this fodder and the market value of other foods. Admitting, with M. Giret and other practical men, that the cost of 100 kilos of vine prunings is 3 francs (£1 4s. per ton), the conclusion is forced on one that their use will only become really profitable when straw and hay are very dear.”

“In any case, it would not be advisable to feed exclusively with vine silage. A sufficient proportion of a concentrated food should necessarily be mixed with it.”

That vine canes have a fodder value is evidenced by the fact, well known to most vineyard owners, that when vine prunings are thrown over the fence into an adjacent paddock, cattle eat them readily, even though there may be plenty of grass about. They show a marked preference for certain varieties, such as musecats, for example.

It is a pity that the digestibility of prunings without leaves was not also investigated, since it is the form which should interest us most here. After the dreadful ordeal their vines have been through, our growers are scarcely likely to run any risk of damage to the 1916 vintage by pruning before the fall of the leaf. M. Leenhardt's communication, referred to above, proves that winter prunings can be profitably used, at any rate in a mixed ration, even in normal times. In

the present emergency they are likely to prove of far greater value, and it is to be hoped that the many thousand tons of prunings which will shortly demand removal from the vines will be turned to useful account, instead of being burnt, as may prove more economical in seasons of plenty.

Unfortunately, the shredders and crushers specially designed for treating vine prunings in France are not obtainable here. Chaffing with an ordinary chaffcutter, followed by passage through a corn crusher, may, however, prove sufficient, especially if the chaffed and crushed canes are mixed with other fodder.

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#### SHODDY AS A FERTILIZER.

The value of shoddy as a bulky organic manure is well known, and in view of the enormous quantity of wool that is being worked up in Yorkshire for army requirements, the supply of wool waste and shoddy during the next few months will be unusually large.

Generally speaking, the term "shoddy" is applied to any form of waste from silk or wool manufacturing which is no longer profitable to work up for cloth.

Mr. A. D. Hall, in his work on "Fertilizers and Manures," points out that pure wool contains over 17 per cent. of nitrogen, pure silk about as much, while shoddis composed of carpet waste, cloth clippings, and gun wad waste may contain as much as 14 per cent. of nitrogen.

Less valuable, because of the admixture of dirt, are wool combings, flock dust, and other cloth wastes where cotton is also used, which may contain 5 to 10 per cent. of nitrogen, while the manufacturing dust from textile factories, the sweepings of workshops, etc., may contain not more than 3 per cent.

That the value of shoddy as manure has long been known is shown by the following passage written by Blythe in the year 1653:—"Coarse wool, nippings, and tarry pitch marks, a little whereof will do an acre of land, there is great virtue in them. I believe one load hereof will exceedingly well manure half an acre."

At the present time shoddy is mainly used by the hop and fruit growers.—[*Fertilizers and Feeding Stuffs Press*, 16th January, 1915. Experiments conducted in the Laboratory of the Victorian Agricultural Department during 1912 show 50 per cent. (approximate) of the nitrogen in shoddy to be available in a month.]



## FINAL RESULTS.

## FOURTH VICTORIAN EGG-LAYING COMPETITION, 1914-1915.

Commenced 15th April, 1914; concluded 14th April, 1915.

CONDUCTED AT THE BURNLEY SCHOOL OF HORTICULTURE.

Pen No. (6 Birds).	Breed.	Owner.	Eggs Laid during Competition.			Position in Com- peti- tion.
			15th April to 14th March.	15th May to 14th April.	Final Total.	
26	White Leghorns	Mrs. H. Stevenson	1,505	128	1,633	1
36	"	E. A. Lawson	1,541	52	1,593	2
25	"	J. H. Gill	1,533	54	1,587	3
10	"	R. Hay	1,430	97	1,527	4
15	"	A. R. Simon	1,415	106	1,521	5
9	"	J. J. West	1,416	84	1,502	6
17	"	Y. Doldridge	1,394	92	1,486	7
46	"	J. D. Smith	1,382	106	1,478	8
11	"	C. J. Jackson	1,289	88	1,477	9
10	"	Marrills Poultry Farm	1,387	88	1,475	10
33	"	W. G. Osborne	1,372	82	1,454	11
8	"	E. W. Brine	1,206	117	1,413	12
45	"	H. C. Brock	1,342	55	1,397	13
37	"	S. Brown	1,346	49	1,395	14
29	"	V. Little	1,320	62	1,381	15
23	"	S. Buschbom	1,327	61	1,388	16
4	"	Giddy and Son	1,340	49	1,380	17
30	"	G. W. Robbins	1,279	95	1,377	18
20	"	A. W. Hall	1,287	78	1,365	19
22	"	B. Mitchell	1,279	84	1,363	20
47	"	W. G. Swift	1,274	89	1,363	21
15	"	E. Waldon	1,283	77	1,360	22
14	"	F. J. Westcott	1,245	82	1,325	23
1	"	F. G. O'Brien	1,282	23	1,305	24
35	"	N. W. G. Groom	1,282	24	1,304	25
6	"	C. R. Jones	1,216	69	1,285	26
12	"	A. H. Mould	1,197	79	1,276	27
3	"	T. A. Pettigrove	1,190	74	1,264	28
32	"	Glenzell Bros.	1,177	83	1,260	29
5	"	A. Mowatt	1,164	95	1,259	30
44	"	A. Ross	1,220	58	1,248	31
24	"	C. Pyke	1,188	55	1,243	32
13	"	H. Hanbury	1,155	79	1,237	33
34	"	W. A. Repine	1,176	60	1,236	34
41	"	Doncaster Poultry Farm	1,166	68	1,234	35
48	"	Bennett and Chapman	1,207	23	1,230	36
28	"	Utility Poultry Farm	1,184	44	1,228	37
2	"	J. C. Armstrong	1,194	30	1,224	38
38	"	G. Hayman	1,161	39	1,220	39
18	"	Allay Poultry Farm	1,172	33	1,207	40
43	"	G. Mayberry	1,135	67	1,202	41
42	"	T. W. Hippis	1,126	65	1,182	42
39	"	R. A. Ashfield	1,106	45	1,134	43
31	"	E. H. Bridge	1,110	16	1,126	44
21	"	R. A. Lewis	1,093	30	1,123	45
49	"	A. Boer	1,050	67	1,117	46
50	"	F. G. Silberisen	1,041	69	1,110	47
7	"	B. Cohen	1,015	70	1,085	48
46	"	C. L. Sharman	995	82	1,077	49
27	"	Walter M. Bayles	983	81	1,064	50
Total			62,409	3,338	65,747	

## LIGHT BREEDS

## WET MASH.

26	White Leghorns	Mrs. H. Stevenson	1,505	128	1,633	1
36	"	E. A. Lawson	1,541	52	1,593	2
25	"	J. H. Gill	1,533	54	1,587	3
10	"	R. Hay	1,430	97	1,527	4
15	"	A. R. Simon	1,415	106	1,521	5
9	"	J. J. West	1,416	84	1,502	6
17	"	Y. Doldridge	1,394	92	1,486	7
46	"	J. D. Smith	1,382	106	1,478	8
11	"	C. J. Jackson	1,289	88	1,477	9
10	"	Marrills Poultry Farm	1,387	88	1,475	10
33	"	W. G. Osborne	1,372	82	1,454	11
8	"	E. W. Brine	1,206	117	1,413	12
45	"	H. C. Brock	1,342	55	1,397	13
37	"	S. Brown	1,346	49	1,395	14
29	"	V. Little	1,320	62	1,381	15
23	"	S. Buschbom	1,327	61	1,388	16
4	"	Giddy and Son	1,340	49	1,380	17
30	"	G. W. Robbins	1,279	95	1,377	18
20	"	A. W. Hall	1,287	78	1,365	19
22	"	B. Mitchell	1,279	84	1,363	20
47	"	W. G. Swift	1,274	89	1,363	21
15	"	E. Waldon	1,283	77	1,360	22
14	"	F. J. Westcott	1,245	82	1,325	23
1	"	F. G. O'Brien	1,282	23	1,305	24
35	"	N. W. G. Groom	1,282	24	1,304	25
6	"	C. R. Jones	1,216	69	1,285	26
12	"	A. H. Mould	1,197	79	1,276	27
3	"	T. A. Pettigrove	1,190	74	1,264	28
32	"	Glenzell Bros.	1,177	83	1,260	29
5	"	A. Mowatt	1,164	95	1,259	30
44	"	A. Ross	1,220	58	1,248	31
24	"	C. Pyke	1,188	55	1,243	32
13	"	H. Hanbury	1,155	79	1,237	33
34	"	W. A. Repine	1,176	60	1,236	34
41	"	Doncaster Poultry Farm	1,166	68	1,234	35
48	"	Bennett and Chapman	1,207	23	1,230	36
28	"	Utility Poultry Farm	1,184	44	1,228	37
2	"	J. C. Armstrong	1,194	30	1,224	38
38	"	G. Hayman	1,161	39	1,220	39
18	"	Allay Poultry Farm	1,172	33	1,207	40
43	"	G. Mayberry	1,135	67	1,202	41
42	"	T. W. Hippis	1,126	65	1,182	42
39	"	R. A. Ashfield	1,106	45	1,134	43
31	"	E. H. Bridge	1,110	16	1,126	44
21	"	R. A. Lewis	1,093	30	1,123	45
49	"	A. Boer	1,050	67	1,117	46
50	"	F. G. Silberisen	1,041	69	1,110	47
7	"	B. Cohen	1,015	70	1,085	48
46	"	C. L. Sharman	995	82	1,077	49
27	"	Walter M. Bayles	983	81	1,064	50

## FOURTH VICTORIAN EGG-LAYING COMPETITION, 1914-1915—continued.

Pen No. (6 Birds).	Breed.	Owner.	Eggs Laid during Competition.			Position in Compe- tition.
			15th April to 14th March.	15th Mar. to 14th April.	Final Totals.	
60	White Leghorns	W. N. O'Mullane	1,593	106	1,699	1
55	"	E. A. Lawson	1,452	62	1,514	2
51	"	H. Hanbury	1,306	89	1,395	3
53	"	Moritz Bros.	1,339	55	1,394	4
58	"	C. Lawson	1,301	30	1,331	5
65	"	W. G. Oshburne	1,263	67	1,330	6
59	"	F. G. Silberstein	1,201	63	1,264	7
63	"	Hanslow Bros.	1,181	73	1,254	8
58	"	Miss L. Stewart	1,218	28	1,246	9
62	"	A. Greenhalgh	1,183	51	1,234	10
68	"	E. W. Hippie	1,181	50	1,231	11
69	"	C. J. Beatty	1,143	64	1,207	12
70	"	W. H. Robbins	1,140	66	1,206	13
57	"	J. Jackson	1,110	70	1,180	14
64	"	E. A. Carnie	1,124	35	1,165	15
52	"	Myola Poultry Farm	1,124	22	1,146	16
67	"	Walter M. Bayles	1,090	32	1,122	17
54	"	G. Carter	1,098	6	1,104	18
66	"	S. Brown	807	72	879	19
Total			22,850	1,071	23,921	

## LIGHT BREEDS—continued.

## DRY MASH.

Pen No. (6 Birds).	Breed.	Owner.	Eggs Laid during Competition.			Position in Compe- tition.
			15th April to 14th March.	15th Mar. to 14th April.	Final Totals.	
60	White Leghorns	W. N. O'Mullane	1,593	106	1,699	1
55	"	E. A. Lawson	1,452	62	1,514	2
51	"	H. Hanbury	1,306	89	1,395	3
53	"	Moritz Bros.	1,339	55	1,394	4
58	"	C. Lawson	1,301	30	1,331	5
65	"	W. G. Oshburne	1,263	67	1,330	6
59	"	F. G. Silberstein	1,201	63	1,264	7
63	"	Hanslow Bros.	1,181	73	1,254	8
58	"	Miss L. Stewart	1,218	28	1,246	9
62	"	A. Greenhalgh	1,183	51	1,234	10
68	"	E. W. Hippie	1,181	50	1,231	11
69	"	C. J. Beatty	1,143	64	1,207	12
70	"	W. H. Robbins	1,140	66	1,206	13
57	"	J. Jackson	1,110	70	1,180	14
64	"	E. A. Carnie	1,124	35	1,165	15
52	"	Myola Poultry Farm	1,124	22	1,146	16
67	"	Walter M. Bayles	1,090	32	1,122	17
54	"	G. Carter	1,098	6	1,104	18
66	"	S. Brown	807	72	879	19
Total			22,850	1,071	23,921	

## HEAVY BREEDS

## WET MASH.

Pen No. (6 Birds).	Breed.	Owner.	Eggs Laid during Competition.			Position in Compe- tition.
			15th April to 14th March.	15th Mar. to 14th April.	Final Totals.	
77	Black Orpingtons	J. McAllan	1,451	111	1,562	1
71	"	J. Ogden	1,322	117	1,439	2
89	"	Marville Poultry Farm	1,278	95	1,373	3
88	"	H. H. Pump	1,291	96	1,337	4
87	"	A. Douglas	1,203	89	1,292	5
84	Rhode Island Reds	J. Mulgrave	1,193	79	1,274	6
81	Black Orpingtons	D. Fish	1,191	70	1,261	7
76	"	W. P. Eckermann	1,164	56	1,220	8
82	"	J. H. Wright	1,113	63	1,206	9
73	"	A. McKinnon	1,114	87	1,201	10
72	"	T. W. Coto	1,111	88	1,199	11
75	"	Fairdeal Poultry Farm	1,124	58	1,182	12
74	"	S. Brown	1,080	55	1,134	13
83	"	Cowan Bros.	947	59	1,006	14
85	Golden Wyandottes	J. C. Mickelburgh	855	81	936	15
79	"	Bennett and Chapman	771	87	858	16
78	Red Plyth. Rocks	Jorgen Anderson	805	50	855	17
86	Buff Wyandottes	W. G. Swift	590	52	642	18
Total			19,641	1,323	20,974	

## DRY MASH.

Pen No. (6 Birds).	Breed.	Owner.	Eggs Laid during Competition.			Position in Compe- tition.
			15th April to 14th March.	15th Mar. to 14th April.	Final Totals.	
97	Black Orpingtons	J. McAllan	1,101	109	1,210	1
100	"	D. Fisher	1,120	58	1,178	2
98	"	A. Greenhalgh	1,078	90	1,168	3
90	"	J. H. Wright	1,087	55	1,142	4
91	"	C. E. Graham	1,000	73	1,073	5
96	Rhode Island Reds	Myola Poultry Farm	979	55	1,034	6
94	Black Orpingtons	T. W. Coto	963	51	1,034	7
92	"	Fairdeal Poultry Farm	925	61	1,016	8
93	"	Myola Poultry Farm	880	41	921	9
99	White Plyth. Rocks	Mrs. G. R. Bald	785	50	844	10
95	"	C. L. Hewitt	523	10	543	11
Total			10,441	721	11,162	

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## ORCHARD AND GARDEN NOTES.

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**The Orchard.****MANURING.**

The expediency of adding food supplies to the soil will now come under the consideration of the fruitgrower. It is not wise to recommend any general manure, as soil and climatic conditions vary considerably throughout the State. Humus, in the form of any decayed animal or vegetable matter, may now be added, and it will prove beneficial and productive. Lime may also be applied at this time. The dominant influence of lime will always be felt in a beneficial manner in orchards, provided it be not used too frequently. The application should be made at the rate of about 4 or 5 cwt. per acre.

It is far more important, however, that the soil be placed in a perfect physical condition by draining, subsoiling, and thorough cultivation, so that the tree roots may derive the greatest possible benefit from the soil itself. Then, when that is done, the grower may turn to soil additions as a further means of increasing his yield.

Manuring, except with quick-acting manures, such as nitrate of soda, potash, and sulphate of ammonia, should be carried out in the autumn, and preferably before the autumn ploughing. There are several methods by which the soil may be enriched for orchard trees—humus may be added in the form of animal manures, green manures, plant or animal refuse; the trees may be stimulated by a chemical plant food; or the food in the soil may be assisted and enriched in a different manner each year, and so that it may not be overstocked with any one particular form of tree food.

**CULTIVATION.**

Cultivation work should be well on the way by this time. The ploughing should be advanced, so as to leave plenty of time for other orchard work. The autumn ploughing may be as rough as possible, taking care to plough to the trees, so that the drainage furrow is left between the rows.

**PESTS.**

Orchards will benefit if an attack is now made upon the codlin moth. All hiding places, nooks and crannies, wherever the larvae have hidden, should be thoroughly searched and cleaned out. The orchardist has far more time now to do this work than he will have in the spring time.

It is now a favorable time to spray the trees where such pests as Bryobia mite, woolly aphid, scale species, and peach aphid have been or are prevalent.

Any of the recognised sprays are suitable, these being red oil, crude petroleum, kerosene emulsion, or lime-sulphur wash. The latter wash is again becoming popular, partly owing to its effectiveness, and also to its possessing certain properties as a fungicide.

#### The Flower Garden.

The month of May is a suitable one for the preparation of new flower beds. In starting on this important work, the first essential is good drainage. The fertility of the soil depends so much on its ability to free itself of all surplus and unnecessary water, by being in a good mechanical condition. This is of far greater importance than increasing the value of the soil by the addition of organic manures. The latter is by no means to be despised, but a correct condition, with good drainage, is the first necessity.

The new beds should be well trenched into the clay or the subsoil. It is not advocated that the trenching shall be excessively deep. Much labour has been lost in the past by deep trenching, and no very definite results have been produced.

The subsoil surface should be trenched so that the soil moisture may soak into it, and the plant roots may be able to penetrate into the subsoil. Then the soil and loam should be thoroughly cultivated and broken up. These remarks apply especially to the preparation of rose beds. If new ground is being broken up, the addition of lime at the rate of 1 lb. to every 6 square yards will be a distinct advantage. The lime should be well worked into the soil. The addition of stable manures to the soil may now be carried out. Too heavy dressings are not advised, as an accumulation of manure in the soil is likely to set up sour and unhealthy soil conditions. The manure should be thoroughly mixed with the soil.

It is not too late to sow sweet pea seeds, but the best results come from early planting. The planting of these seeds should not be delayed. Sweet pea results are generally poor if the plants are overrowded. The individual plants should be given ample room, planting the seeds at least an inch apart. The training of the young plant is also an important matter. It should not be allowed to trail or lie on the ground. As soon as the tendrils appear on the young plants, they should be given support, so that they may be encouraged in the climbing habit at once. A good sap flow is necessary to good growth, and the stem of the plant should be trained as upright as possible to allow of this. Stable manure is one of the most useful of plant foods for sweet peas, but if a chemical manure is needed, sulphate of potash in very small quantities may be used. It must be understood that this manure is used to produce good and free growth in the plant itself. If this be obtained, good flowers will naturally follow.

At the end of the month a start may be made with the autumn digging, pruning, and clearing up. Manure may be dug into the beds,

well below the surface. All leaves and light litter should also be dug in. If necessary, a light top dressing of lime may be given after the digging has been completed.

As much garden litter as can be saved should be rotted down for future use; the rough litter and strong stems should be burned, and the ashes returned to the soil.

Flowering shrubs should be pruned only after the flowering season for each plant has passed.

#### The Vegetable Garden.

The notes in the flower garden notes referring to the preparation of new beds apply to the kitchen section, this being the time for good soil work; only, where deep-rooting vegetables are to be grown, such as carrots and turnips, the soil and subsoil should be deeply worked, so as to allow a ready root run for these vegetables.

A dressing of lime will be of great value in every section of the kitchen garden. This will especially help to minimize future attacks of insect and fungus pests.

All asparagus plots should be cleaned out, cut down, and kept in good order. A light dressing of stable manure may be given to the beds.

Plantings may be made of all seedlings, such as cabbage, cauliflower, lettuce, onions, &c., and seed of carrot, leek, lettuce, onion, peas, radish, turnip, parsnip, broad beans, &c., may be sown.

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## REMINDERS FOR JUNE.

### LIVE STOCK.

**HORSES.**—Those stabled and in regular work should be fed liberally. Those doing fast or heavy work should be clipped; if not wholly, then trace high. Those not rugged on coming into the stable at night should be wiped down and in half-an-hour's time rugged or covered with bags until the coat is dry. Old horses and weaned foals should be given crushed oats. Grass-fed working horses should be given hay or straw, if there is no old grass, to counteract the purging effects of the young growth. Old and badly-conditioned horses should be given some boiled barley. Paddocked horses should be looked at from time to time to ascertain if they are doing satisfactorily.

**CATTLE.**—Cows, if not housed, should be rugged. Rugs should be removed and aired in the daytime when the shade temperature reaches 60 degrees. Give a ration of hay or straw, whole or chaffed, to counteract the purging effects of young grass. Cows about to calve, if over fat, should be put into a paddock in which the feed is not too abundant. If in low condition feed well to tide them over the period and stimulate milk flow. Calves should be kept in warm dry shed. Cows and heifers for early autumn calving may be put to the bull.

**PIGS.**—Supply plenty of bedding in warm, well-ventilated sties. Keep sties clean and dry. Store pigs should be placed in fattening styes. Sows in fine weather should be given a grass run. Young pigs over two months old should be removed from luecine run. All liquid food should be given warm and feeding utensils kept scrupulously clean. (Read articles in *Journal* for April, 1912, and June, 1913.)

**SHEEP.**—Have the wool clipped from round the udders of all young lambing eyes. See to them early every morning. Do not fail to mark ram lambs at the earliest chance. Cut off ewes with oldest wether lambs to best fodder. These will be of extreme value when 60 lbs. live weight.

Overgrown hoofs are conducive to lameness and even foot-rot, whenever noticed trim into shape; lame ewes cannot thrive and fatten good lambs.

Foxes are most troublesome after drought periods. When lambs are found with usual fang punctures in the throat, cover from crows until evening. Shoot sparrows, handle them with fork and knife from first to last. Poison with powdered strichnine, one lot on the back of the tongue, another lot well in on the breast bone, each dose just what will cover nicely a threepenny-piece. At sundown place four or five sparrows all round the lamb at about 2 yards distance, some covered very slightly, and some lying on the surface. Take all ewes and lambs away. Every fox is not a lamb killer. The killer comes for warm blood, and after working about in search of the removed lambs, will sooner or later go to the spot he killed at the night before. Sparrows being a delicacy the fox rarely ever gets more than a few chains away. It takes the blood of two lambs per night to satisfy a large dog fox. Poisoning lambs found dead accounts for scavenger foxes only.

**POULTRY.**—Supplies of shell grit and charcoal should always be available. Sow a mixture of English grass and clover; this not only removes taint in soil but provides excellent green fodder for stock. Where possible, luecine should now be sown for summer feed; liver (cooked) and maize aids to egg production during cold weather. Morning mash should be mixed with liver soup given to the birds warm in a crumbly condition. All yards should be drained to ensure comfort for the birds.

## CULTIVATION.

**FARM.**—Plough potato land. Land to be sown later on with potatoes, mangolds, maize, and millet should be manured and well worked. Sow malting barley and finish sowing of cereals. Lift and store mangolds, turnips, &c. Clean out drains and water furrows. Clean up and stack manure in heaps protected from the weather.

**ORCHARD.**—Finish ploughing; plant young trees; spray with red oil or petroleum for scales, mites, aphid, &c.; carry out drainage system; clean out drains; commence pruning.

**VEGETABLE GARDEN.**—Prepare beds for crops; cultivate deeply; practise rotation in planting out; renovate asparagus beds; plant out all seedlings; sow radish, peas, broad beans, leeks, spinach, lettuce, carrot, &c.; plant rhubarb.

**FLOWER GARDEN.**—Continue digging and manuring; dig all weeds and leafy growths; plant out shrubs, roses, &c.; plant rose cuttings; prune deciduous trees and shrubs; sow sweet peas and plant out seedlings.

**VINEYARD.**—Thoroughly prepare for plantation land already subsoiled for the purpose. Remember that the freer it is kept from weeds from this forward, the less trouble will there be from cut-worms next spring. Applications for ungrafted resistant rootlings and cuttings must be made before the end of the month—see *Journal* for February, 1915. Pruning and ploughing should be actively proceeded with. In northern districts plough to a depth of seven or eight inches. Manures should be applied as early as possible.

**Cellar.**—Back all wines which have not been previously dealt with. Fortify sweet wines to full strength.